UNDERSTANDING NON-RESIDENTIAL DEMAND FOR GREEN POWER

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Prepared for

National Wind Coordinating Committee
January 2001

Consensus Report

NATIONAL WIND COORDINATING COMMITTEE

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About the National Wind Coordinating Committee

A U.S. consensus-based collaborative formed in 1994, the **National Wind Coordinating Committee (NWCC)** identifies issues that affect the use of wind power, establishes dialogue among key stakeholders, and catalyzes activities to support the development of an environmentally, economically, and politically sustainable commercial market for wind power. **NWCC** members include representatives from electric utilities and support organizations, wind developers and equipment suppliers and support organizations, environmental organizations, state legislatures, state utility commissions, consumer advocacy offices, green power marketers, and local, state, tribal, and federal agencies, and agriculture and economic development organizations.

RESOLVE, a non-profit environmental dispute resolution organization, provides a full range of facilitation services to create opportunities for **NWCC** members and other wind stakeholders to build long-term relationships, and to develop a number of landmark products resulting from significant negotiation and reflecting consensus of the Committee. Over 2,500 individuals from diverse sectors and wind resource areas across the country have participated in the **NWCC's** collaborative efforts.

This report is acceptable to members of the NWCC as a C*onsensus Document*. Consensus is defined as "all can live with."

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About the American Wind Energy Association

Since 1974 the **American Wind Energy Association (AWEA)** has advocated the development of wind energy as a reliable, environmentally superior energy alternative in the United States and around the world.

The American Wind Energy Association (AWEA) promotes wind energy as a clean source of electricity for consumers around the world.

AWEA is a national trade association that represents wind power plant developers, wind turbine manufacturers, utilities, consultants, insurers, financiers, researchers, and others involved in the wind industry -- one of the world's fastest growing energy industries. In addition, AWEA represents hundreds of wind energy advocates from around the world.

The Association provides up-to-date information on:

- wind energy projects operating worldwide;
- new projects in various stages of development;
- companies working in the wind energy field;
- technology development; and
- policy developments related to wind and other renewable energy development.

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Executive Summary

The sale of green power to end use customers is a strategy that is being pursued by over 200 utilities in the U.S., and by over 15 green power marketers in restructured states where consumers can choose not only what kind of power they buy, but also from whom they buy it. Generally, green power costs more than electricity from fossil fuels, and it is commonly thought that businesses are too focused on the bottom line to be interested in a premium environmental product. Yet where businesses or other non-residential customers have been targeted with green power, marketing efforts have met with some success.

This report was undertaken with the sponsorship of the American Wind Energy Association and the National Wind Coordinating Committee to understand commercial, industrial, and institutional motivations and barriers to purchasing green power, and to disseminate these insights publicly to stakeholders whose potential commitment to wind power (and other renewables) will be heavily influenced by their views of the viability of the green power market.

The non-residential market for green power is important for several reasons:

- On average, non-residential customers make larger energy purchases than residential customers. A green power sale to one non-residential customer can be the equivalent of 10 or 100 homes buying green power.

- Although the transaction cost may be higher to market green power to a large customer, it can nevertheless be more cost effective. The cost to acquire that customer, on a per kWh basis, can be much lower than for mass marketing to residential customers.

- Large customers have secondary marketing or marquee value. The promotion or recognition of a large customer purchasing green power can raise public awareness of the option, legitimize the choice, and encourage residential and other non-residential customers to buy green power.

This report covers three major research tasks:

- The first publicly available large sample survey of actual non-residential green power buyers in the United States.

- A series of personal interviews with large corporations or institutions that are already buying green power, most of which are included in the larger survey.

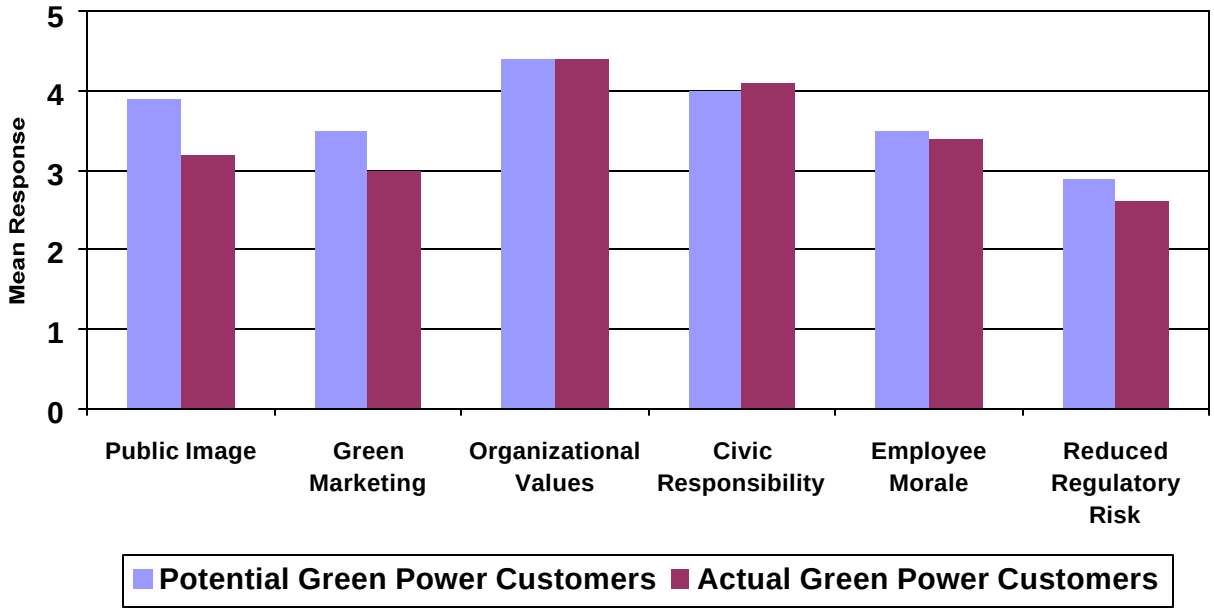
- A second survey of businesses that might be inclined to purchase green power but have not yet done so—called here a survey of *potential* green power customers.

Findings

Motivations
Non-residential customers already buying green power are strongly motivated by altruistic factors of internal organizational values and civic responsibility. These two motivations easily lead the reasons given for buying green power. In the second tier of motivations, employee morale is the top factor, followed by public image and catering to the environmentally-conscious. This finding of altruistic motivations is supported by the fact that customers have done little to exploit the public relations value of their green power purchase.

Similarly, potential customers rate altruistic factors highly, but they are also motivated by self-interest in their public image, more so than the actual buyers. A comparison of the responses from actual and potential buyers is shown in Figure S-1, where a rating of 1 = not important and 5 = very important.

Figure S-1. Relative Importance of Motivations, Two Surveys



Market Segmentation
The non-residential market is not a monolithic market. While there are differences between utility customers and competitive marketer customers, between public sector or non-profit and for-profit companies, and between manufacturing/wholesale and retail services, the most important differences are based on the size of the company. Large customers, for example, do tend to be as concerned about public image as they are about more altruistic motivations. Small and medium sized companies indicate that the head of the organization (CEO, owner, or director) is overwhelmingly the most important

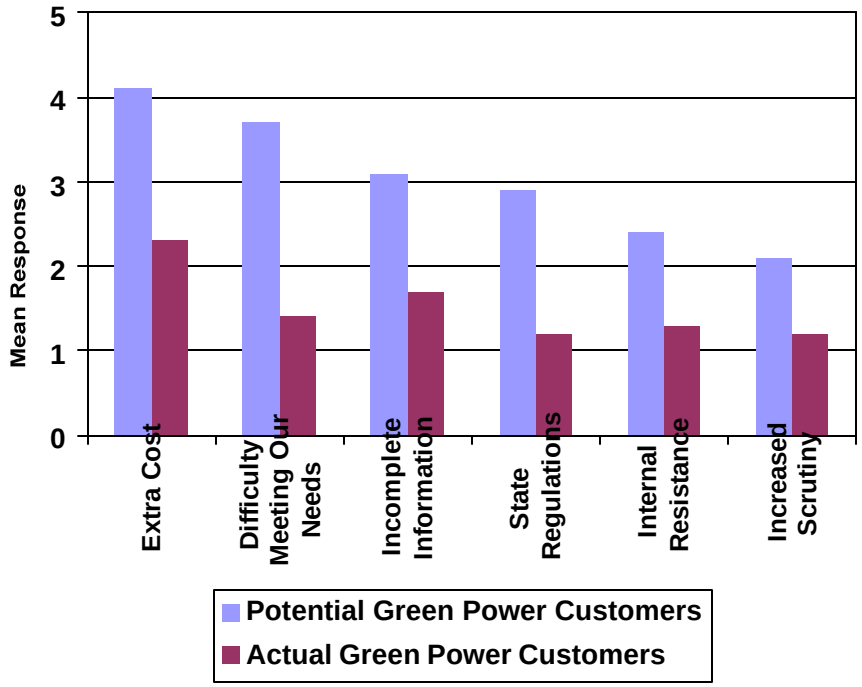
advocate for the purchase of green power, while large customers show more variety in who champions the purchase.

Among potential customers, retail and service firms are more likely to buy green power than manufacturing and wholesale firms that are more price-sensitive. Companies may also be segmented by the percentage of green customers that buy their products and services. The higher the percentage, the more willing these firms are to pay more for green power for a significant percentage of their electricity needs.

Given the importance of organizational values in motivating a green power purchase, for both actual and potential customers, it appears that the presence or absence of a strong corporate environmental policy is a key segmentation indicator.

Barriers to a Green Power Purchase
Factors that might complicate the purchase of green power were all rated low by actual green power customers, suggesting that potential barriers were not significant. Potential customers, on the other hand, perceive that the extra cost and provider difficulty in meeting their needs would be significant barriers to the purchase of green power. Barriers were rated on a 5-point scale, with 1 = not important and 5 = very important. The differences between the two groups, shown in Figure S-2, suggest that either it will be difficult to expand green power sales beyond the early adopters, or that it will require a significant educational effort as well as attention to specific needs and motivators of the potential buyers.

Figure S-2. Relative Importance of Barriers, Two Surveys



Supplier and Product Selection Criteria
Reinforcing the differences between actual and potential buyers of green power, the actual buyers placed more emphasis on selecting a provider that is socially responsible and committed to the environment, than do the potential buyers. The latter group, in contrast, places more emphasis on traditional factors such as good reputation as an electricity provider, financially sound, and easy to work with. In terms of selecting a green power product, both groups rate the importance of percent renewables highly, but the actual buyers placed more emphasis on new renewables and type of renewables, while the potential buyers placed more emphasis on cost and length of the contract.

Strategy
Both actual and potential green power customers agree that they can get more attention, and perhaps gain competitive advantage, from being among the first to buy green power in their market. Even if they are not among the first, both groups agree that it becomes increasingly important for them to buy green power if other companies in their industry or community are doing so.

Public policy
Both actual and potential green power customers support using public policy as well as voluntary consumer choice to support the development of renewable energy. This suggests a belief that everyone should support shared public environmental benefits.

Increasing Non-Residential Demand for Green Power

The above findings are conclusions drawn from the survey responses themselves. Our challenge is to interpret the findings in ways that could help increase non-residential demand for green power. The following observations summarize the core ideas.

These results reveal the importance of altruistic motivations to actual and potential customers alike. But larger firms are also looking for tangible private benefits. By focusing on altruism alone, markets may be limited to smaller firms that reflect the personal beliefs of their owners of directors.

Larger firms in particular are interested in the added value that energy service providers can bring to a green power purchase, whether through specific environmental benefits that help meet company goals, or public relations benefits that might translate into goodwill and higher sales. It may be desirable for federal or state government to develop a green power purchaser recognition program for large corporations.

To increase non-residential demand for green power also will require that energy service providers address the cost barrier. While the extra cost was not much of an issue for the actual customers, potential customers rate cost as the most important factor complicating their decision-making process.

Energy service providers can also identify other benefits that are important to non-residential customers, including: employee morale, environmental benefits consistent

with organizational values, leadership in the community, as well as improved public image.

No matter how creative the promotion of a green power purchase, increased sales to non-residential customers will depend on a strong environmental commitment or corporate policy at the core of their motivations.

UNDERSTANDING NON-RESIDENTIAL DEMAND FOR GREEN POWER

1 Introduction

The environmental impacts resulting from electricity generation and use present a significant environmental problem, and an opportunity. Electricity generators using fossil fuels are responsible for 67 percent of SO_x emissions in the United States, 28 percent of the NO_x, 33 percent of the mercury, and 36 percent of the CO_2. These emissions contribute to acid rain, asthma and respiratory diseases, regional haze and smog, climate change, vegetation damage, fish contamination, and poisoning of wildlife. The environmental footprint of the electric industry is very large.[1]

Renewable energy can be viewed as a multiple pollutant control technology for virtually all pollutants. Rather than installing controls for each pollutant, the use of renewable energy simultaneously reduces emissions of sulfur dioxide, nitrogen oxides, particulates, toxics, greenhouse gases, and reduces solid waste and water impacts.

The sale of green power (generally, electricity generated from renewable resources including the sun, wind, water, geothermal, and biomass) to end use customers is a strategy that is being pursued by about 200 utilities in the U.S., and by over 15 green power marketers in restructured states where consumers can choose not only what kind of power they buy, but also from whom they buy it. Without subsidies, green power tends to cost more than traditional forms of electric power generation. It is expected that the more the demand for green power, the faster these renewable technologies will come down in cost. But currently, they are still competing against electricity from fossil and nuclear fuels whose price does not include all their environmental costs.

Roughly 40 percent of U.S. households currently have access to a green power product. The marketing of green power by both utilities and competitive marketers has focused on residential customers to a large extent. About 360,000 households are currently being served by green power. Although the residential market penetration for green power ranges from less than one percent to nearly five percent in a few cases, the average is around one percent.

[1] See for example L. Wright, *Pollution Prevention by Consumer Choice: The Green Pricing Option*. (Washington, DC: U.S. Environmental Protection Agency). Presented at EPA Symposium on Greenhouse Gas Emissions and Mitigation Research, Washington, DC, June 29, 1995; I. Mintzer, A. Miller and A. Serchuk, "The Environmental Imperative: A Driving Force in the Development and Deployment of Renewable Energy Technologies," *REPP Issue Brief No.1*. (College Park, Md: Renewable Energy Policy Project, April 1996); C. Moore, "Dying Needlessly: Sickness and Death Due to Energy-Related Air Pollution," *REPP Issue Brief No. 6*. (College Park, Md: Renewable Energy Policy Project, February 1997).

It is commonly thought that individuals tend to be more altruistic than businesses that are focused on the bottom line. Yet where businesses or other non-residential customers have been targeted, marketing efforts have met with some success. Several examples illustrate the potential:

- Traverse City Light and Power, a small Michigan municipal utility, sold the output of a single wind turbine to its customers. With a little personal sales effort, small businesses in the downtown area signed up for wind power. Although in numbers they constitute just 12 percent of the total participating customers, these small businesses are purchasing 38 percent of the energy generated by the wind plant.

- On a much bigger scale, Public Service Company of Colorado (PSCo) has developed and sold about 20 MW of wind and is selling it through its Windsource program. It has signed up about 17,000 customers who are paying a 2.5 cent per kWh premium for clean wind energy. A regional environmental group, the Land and Water Fund of the Rockies, has allied with PSCo to help market the product to businesses with considerable success. Although non-residential customers account for less than 2 percent of all participating customers, wind energy sales to these customers are estimated to be approximately 20 percent of the total sales.

- Community Energy, Inc. has set up shop in Pennsylvania to market specifically to small businesses in that direct access state. It is selling wind energy door-to-door and quickly sold out its available supply from two small 65 kW turbines.

In addition, there are a number of well known or high profile customers who are purchasing green power. Some of them are listed in Table 1.

Table 1. Selected Non-Residential Green Power Purchasers

Private Companies	Government Entities	Non-Profit Organizations
Birkenstock Footprint Sandals	Assoc. of Bay Area Governments	Environmental Defense
Celestial Seasonings	City of Chula Vista	70 Episcopal Churches
Coors Brewing Company	City of Denver	The Nature Conservancy
Fetzer Vineyards	Los Angeles World Airports	Union of Concerned Scientists
Kinko's	California Assoc. of Water Agencies	University Students' Cooperative Association at UC Berkeley
Lockheed Martin Corporation	US EPA Richmond Field Station	Univ. of Colorado Student Union
Lucky Brand Dungarees	US EPA Denver Regional Office	
MCI WorldCom	US Postal Service	
New Belgium Brewing Co	City of Santa Barbara	
Panda Express	City of Boulder	
Patagonia	Penn. Dept. of General Services	
Pick-Up Sticks		
Rocky Mountain Steel Mills		
Sheraton Rittenhouse Hotel		
Time Warner Communications		
Toyota Motor Sales, USA		
U.S. West		
Vail Resorts		

Selling green power to non-residential customers is important for several reasons:

- On average, non-residential customers make larger energy purchases than residential customers. A green power sale to one non-residential customer can be the equivalent of 10 or 100 homes buying green power.

- Although the transaction cost may be higher to market green power to a large customer, it can nevertheless be more cost effective. The cost to acquire that customer, on a per kWh basis, can be much lower than for mass marketing to residential customers.

- Large customers have secondary marketing or marquee value. The promotion or recognition of a large customer purchasing green power can raise public awareness of the option, legitimize the choice, and encourage residential and other non-residential customers to buy green power.

Non-residential buyers of green power are diverse, as illustrated by Table 1. They include large corporations, retail stores, governments at the local, state, and federal levels, religious organizations, and many small businesses of all types. Some of them have initiated the purchase of green power, but to a large extent they have to be "sold" by the utility, green power marketer, or local environmental organization.

Research into willingness to pay more for green power, and the motivations of and barriers facing non-residential customers has been spotty or confidential. Research into willingness to pay suggests that 47 to 62 percent of non-residential customers are at least interested, and in this regard they respond similarly to residential customers.[2] A survey of 24 small businesses purchasing wind power in Traverse City, Michigan was designed to explore the motivations of small business customers in purchasing green power. The survey showed that small businesses are motivated primarily by the environmental beliefs of the owners (Holt 1997). The Electric Power Research Institute has undertaken focus groups and a telephone survey of small to medium sized businesses to understand perceptions and attitudes towards green power (Kalweit and Peterson 1999). There have also been a few case studies of green power purchasers done by consulting organizations, but like the EPRI work, these have been for proprietary clients and the information is not publicly available to a larger audience.

While there is sketchy and anecdotal information available about non-residential purchases of green power, still much is not known:

- There is no broad view of non-residential green customers across various sizes and types and in different types of markets.

[2] See, for example, Sacramento Municipal Utility District, "SMUD's Customer Attitudes, Needs, and Opinion Survey" (1995); and Barbara C. Farhar, *Willingness to Pay for Electricity from Renewable Resources: A Review of Utility Market Research*, Golden, Colorado: National Renewable Energy Laboratory, July 1999). She mentions just two willingness-to-pay studies that include non-residential customers.

- There is no systematic study of why those who purchase green power do so, and how they went about doing it.
- There is very little understanding of non-residential customers who might buy green power but have not done so.[3]
- There is no documentation of how best to market to these customers to try to achieve higher levels of non-residential participation.

Therefore, this project has two overarching purposes:

- Understand commercial, industrial, and institutional motivations and barriers to purchasing green power.
- Disseminate these insights publicly to stakeholders whose potential commitment to wind power (and other renewables) will be heavily influenced by their views of the viability of the green power market.

The American Wind Energy Association and the National Wind Coordinating Committee both agreed with the need to develop a more comprehensive view of the motivations of and barriers facing non-residential customers when considering the purchase of green power. In addition, the U. S. Department of Energy funded Lawrence Berkeley National Laboratory's participation. These three organizations are the principal sponsors of this research.

This is a continuation of research previously done for the National Wind Coordinating Committee on residential demand for green power (Holt and Wiser 1999), and seeks to expand our knowledge and understanding to the non-residential markets so that green power sales to these customers will grow and meet with greater success.

Organization of this Report

This report covers three major research tasks. The next section (Section 2) reports on the first of these, the first publicly available large sample survey of actual non-residential green power customers in the United States. Results of the survey shed light on numerous practical issues associated with this market segment, including: the types of customers purchasing green power, how these customers made their green purchases and the reasons given for selecting particular products and suppliers, the motivations and barriers to purchasing green power, and the ways in which these customers use their purchase to derive private benefits.

Section 3 summarizes the second research task, a series of personal interviews with large corporations that are already buying green power. Most, but not all, of these companies are included in the larger survey, but these interviews attempt to gain additional insights

[3] Kalweit and Peterson (1999), for example, say that the EPRI "sample may have been weighted too heavily on businesses that are not expected to have a strong economic rationale for purchasing green power." Also, efforts to create forums for business-to-business marketing have resulted in "preaching to the choir," with existing purchasers of green power in attendance, but not the intended audience of customers who might be inclined to purchase green power if approached properly.

not possible from a more rigid written questionnaire. Information developed from these interviews is integrated and summarized for the decision-making process, green power prices, promotion of the green power purchase, how to approach businesses about green power, and lessons learned.

The third research task is reported in Section 4, and presents the results of a second survey. The second survey focuses on businesses that might be inclined to purchase green power but have not yet done so—called here a survey of *potential* green power customers. This survey provides insights on the general awareness of green power, perceived motivations and barriers to buying green power, stated willingness to pay for it, and the role it might play in differentiating the purchaser from its peers.

Each of these major sections is introduced by a description of methods and sample sizes for that particular piece of work and by more detail about the organization of that section.

Finally, Section 5 incorporates conclusions from a synthesis of the three research tasks with recommendations to further the success of green power marketing efforts to non-residential customers.

2 Survey of Green Power Customers

This section reports on the survey of non-residential customers who are already purchasing green power. It begins with a description of the survey methods and limitations. It then provides survey results by profiling the respondents to the survey, exploring the purchasing process and barriers encountered, identifying important criteria used to select a green power supplier and product, and examining overall customer satisfaction. The analysis then turns to the motivations of customers in purchasing green power and the benefits derived from those purchases, as well as to the preferences of the respondents for different forms of renewable energy support. The section closes with a summary of the findings.

2.1 Methods

2.1.1 Survey Procedures and Sample

The target population of the survey was non-residential customers (encompassing business, public sector, and non-profit organizations) in the United States that are paying a premium for green power. This includes two population groups:

- Customers purchasing an optional green power service from a green pricing program offered by their local regulated utility, and
- Customers purchasing a green power product from one of several competitive electricity marketers in restructured markets (California and Pennsylvania).

To identify these existing customers, we had company names of some large and high profile customers that have been publicly acknowledged through press releases and media stories (shown in Table 1). In addition, some utility and green marketer web sites have listed names of companies that are buying green power. But efficient and effective contact of the customers required a contact name and address. In short, we needed the cooperation of those that sell green power.

Most green pricing utilities have not targeted non-residential customers, but several have done so with success. We contacted utilities known to have signed up a significant number of non-residential customers, and five agreed to cooperate. We also contacted several power marketers offering green power products in the direct access states of California and Pennsylvania. The two largest agreed to cooperate. Customer lists were ultimately obtained for participants of the utilities' programs and for green power customers of the marketers, shown in Table 2.

Table 2. Utilities and Marketers Whose Customers Were Surveyed

Providers	States
Municipal Utilities	
Eugene Water and Electric Board	Oregon
Los Angeles Department of Water and Power	California
Investor-Owned Utilities	
Public Service Company of Colorado	Colorado
(provided by the Land and Water Fund of the Rockies)	
Madison Gas and Electric	Wisconsin
Wisconsin Electric Company	Wisconsin
Power Marketers	
Commonwealth Energy Corporation	California
Green Mountain Energy Company	Pennsylvania and California

Table 2 also shows that the sample is geographically diverse, containing customers from the competitive markets of California and Pennsylvania and from regulated markets in Oregon, California, Wisconsin, and Colorado. Because of subsidies available in California, some green power products have been sold at a discount.[4] Because lower-priced green power might muddy customer motivations, we tried to exclude customers purchasing these products (which include approximately 40,000 customers in California). As described below, this effort was only partially successful.

Overall, the sample represents the target population reasonably well and contains a large fraction of the total number of customers in the target population (perhaps over 75 percent). As shown in Table 3, the entire sample population consists of 1,800 customers, each of which received the mailed questionnaire in the Spring of 2000. A follow-up reminder and additional copy of the questionnaire were sent to non-respondents of the initial mailing. In at least one case, the cooperating utility telephoned its customers in advance to let them know the survey would be coming shortly and to encourage them to respond.[5] In another case, the marketer cooperator included its own cover letter with the survey in addition to our cover letter. We were pleased with the level of response (27 percent overall and 464 completed surveys) given that this was a survey of non-residential customers.

Table 3. Green Power Customer Survey Response Rates

Market Type	Surveys Mailed	Undeliverable or Bad Addresses	Completed Responses	Response Rate*
Competitive Markets	1,234	44	222	19%
Utility Markets	566	23	242	45%
TOTAL	1,800	67	464	27%

* Calculated as: (completed responses) / (surveys mailed – undeliverable or bad addresses)

[4] Both competitive and regulated markets include subsidies for renewable energy. We were not trying to screen out customers buying subsidized products but rather customers buying green power because it is cheaper than other alternatives.

[5] In this instance, 30 responses were received out of 37 surveys mailed, for an 81 percent response rate.

2.1.2 Questionnaire Design

The questionnaire itself was designed with four sections:

- The first section requested information on how the customer went about purchasing green power, the importance of various criteria used in selecting a supplier and product, details on the nature of the product selected, and the importance of various possible barriers that the customer may have encountered in the purchasing process.

- The second section sought to explore customer motivations in purchasing green power.

- In the third section, customers were asked what – if anything – they had done to get the word out about their green power purchase and asked about customer preferences for supporting renewable energy.

- The fourth and final section of the survey requested basic information about the nature of the respondent's organization and the customer's overall satisfaction with their purchase.

Drafts of the questionnaires were reviewed by the Green Power Marketing Work Group of the NWCC and by the organizations that provided the names of customers. The final questionnaire is attached as Appendix A.

2.1.3 Methodological Limitations

As with any research, the results of this survey suffer from a number of methodological limitations:

- The sample population is probably not a precise replication of the target population. There are no business demographic statistics for the target population for comparison. But because the sample population includes the vast majority of the target population (those that are paying a premium for green power), these results probably constitute the best overall description available.

- Non-response and selection biases are likely present given the 27 percent response rate to the survey. Quite possibly, those that chose to return the survey are more dedicated to the concept of green power than those who were unwilling to respond. This bias makes it difficult to generalize with certainty from the respondents to the sample population or the target population.

- The target population of green power customers is small and limited by the incipient state of the green power market. Accordingly, the experiences and attitudes of these "early adopters" may not be easily transferable to the larger potential market for green power among non-residential customers.

- As with most survey work, the results rely on the stated motivations and actions of the respondents. For a variety of reasons, responses to surveys may or may not reflect actual practice. To overcome this weakness, we frequently rely on the answers to multiple questions to support our interpretations of the survey results. In addition, the respondent to the survey may not have first-hand or even institutional knowledge of the purchase because of personnel changes or if the survey was not completed by the decision-maker.

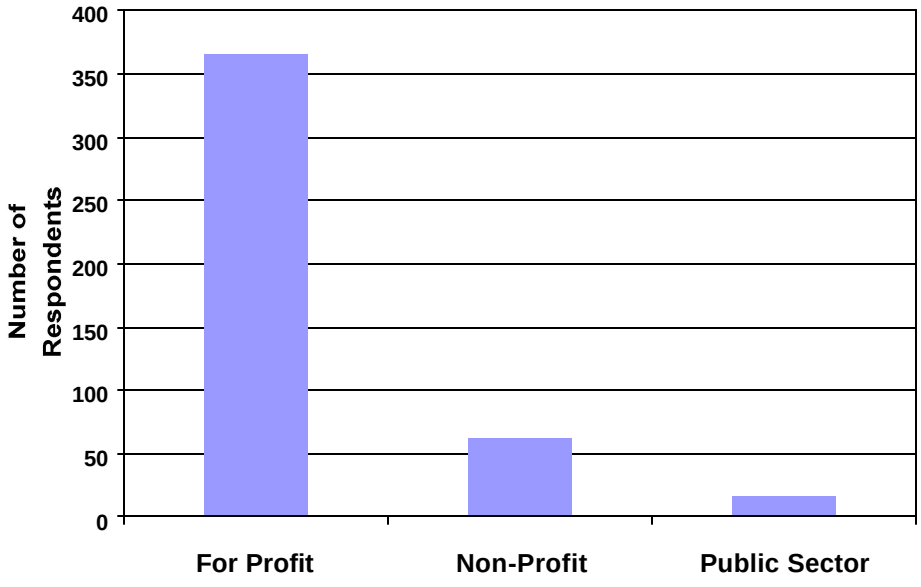
2.2 Survey Results

2.2.1 Profiling the Respondents

As shown in Table 3, the split between customers of competitive marketers and regulated utilities is approximately equal, with 48 percent competitive marketer customers and 52 percent regulated utility customers.

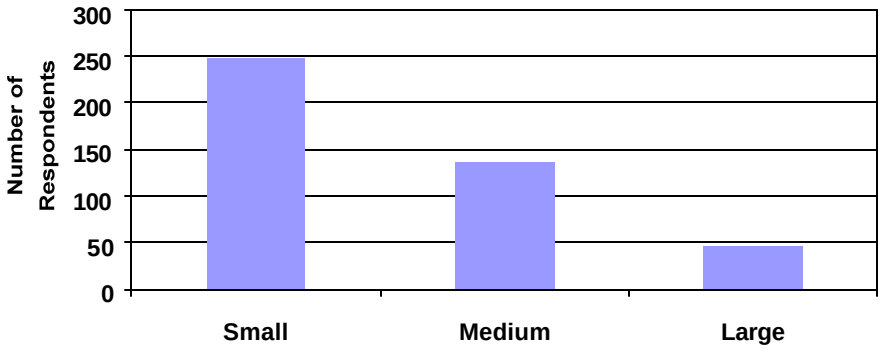
As shown in Figure 1, the majority of the non-residential green power customers in the sample are businesses (82 percent), with lesser numbers of public sector (4 percent) and non-profit (14 percent) organizations. For analysis purposes, the latter two categories are frequently combined and in aggregate represent 18 percent of the respondents. Most of the interest among businesses in purchasing green power is coming from those involved in retail activities. Of those businesses responding to the question, 82 percent report being primarily involved in retail sales and services versus 18 percent that report being principally involved with primary industry, manufacturing, or wholesale trade.

Figure 1. Number of Respondents by Legal Organization



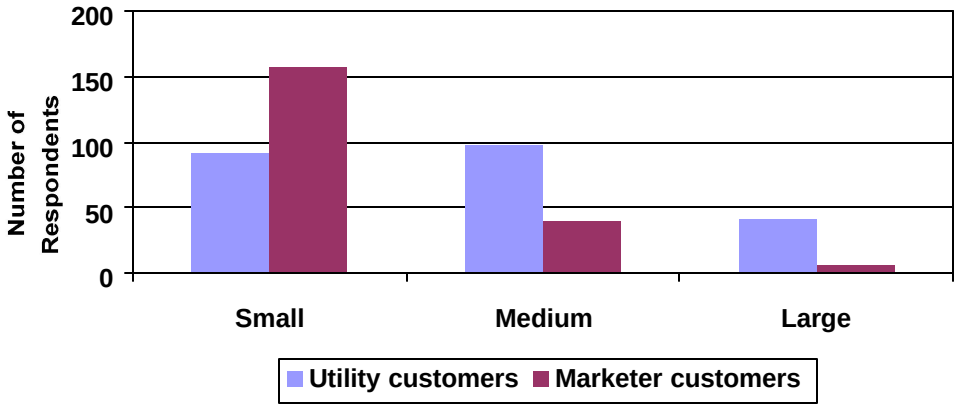
Non-residential purchasers of green power range from small organizations to some of the larger corporations in the United States. For the purposes of further analysis, the respondents have been divided into three size categories, as shown in Figure 2. The "small" category, representing 57.5 percent of respondents, is classified as organizations with annual revenues or budgets of less than $500,000. The "medium" category spans annual revenues or budgets of $500,000 to $10,000,000 and contains 31.6 percent of respondents. Finally, the "large" category with over $10,000,000 in annual revenues or budgets is represented by 10.9 percent of respondents. Though some very large firms are included in the sample, it is important to note that the largest category still represents relatively small firms.

Figure 2. Number of Respondents by Size



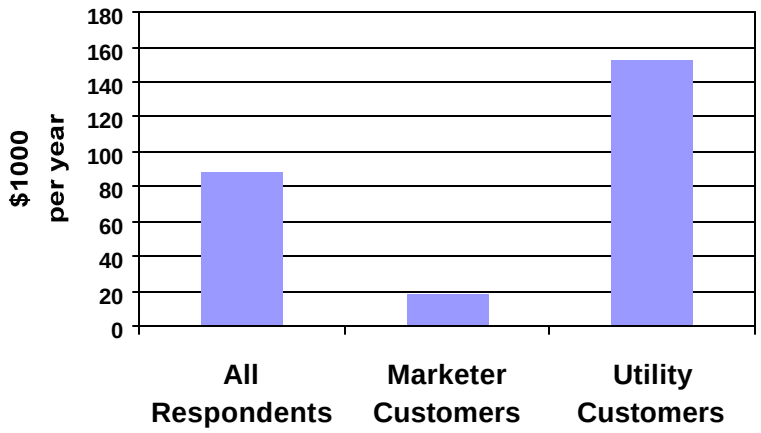
A comparison of organization size between utility green power customers and marketer green power customers is shown in Figure 3. The utility customers in this sample are generally larger than the marketer green power customers.

Figure 3. Size of Respondents, by Market Type



Of the 324 respondents (70 percent) that were willing or able to share data on their electricity expenditures, 20 percent report spending less than $1,000 per year. A full 80 percent report annual electricity expenditures of less than the national average expenditure for non-residential customers of $8,226.[6] Several respondents have sizable electricity expenditures, however, leading to a mean annual expenditure among respondents of $88,000, well above the national average. Consistent with the data showing that utility customers are larger than marketer customers in the sample, the utility customers also have bigger annual electricity expenditures. As shown in Figure 4, the average annual electricity expenditure was $18,700 for customers of competitive marketers and $152,500 for utility customers. Looked at another way, the mean annual electricity expenditure for small customers was $7,059, for medium customers $21,470, and for large customers $768,030.

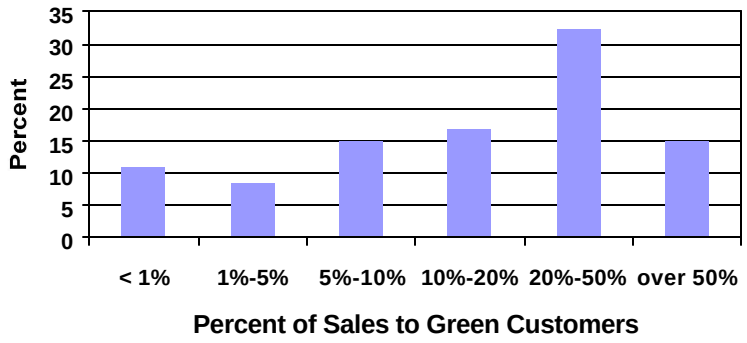
Figure 4. Average Annual Electricity Expenditure by Market Type



To assess the perceptions of the respondents about the environmental predilections of their own customers, one of the questions in the survey queried what percentage of the organization's product or service sales were believed to be to customers that make a concerted effort to buy green products and services. Of the respondents, 47 percent state that over 20 percent of their customers make such a concerted effort, whereas 33 percent report that they believe between 5 and 20 percent of the market they serve is environmentally oriented. Figure 5 also shows that 20 percent state that less than 5 percent of their customers make such efforts. Interestingly, there do not appear to be particularly significant differences in the responses to this question across organizational size categories or industry/organization type.

[6] Energy Information Administration Form EIA-861, "Annual Electric Utility Report, 1998"

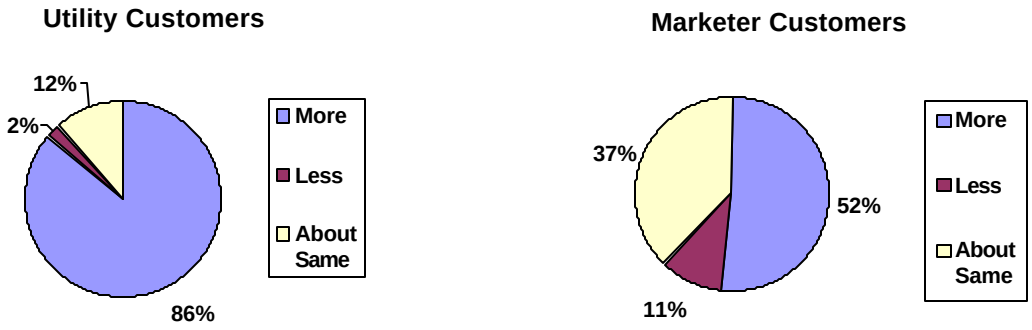
Figure 5. Number of Respondents with Customers Making a Concerted Effort to Buy Green Products



2.2.2 Green Power Premiums

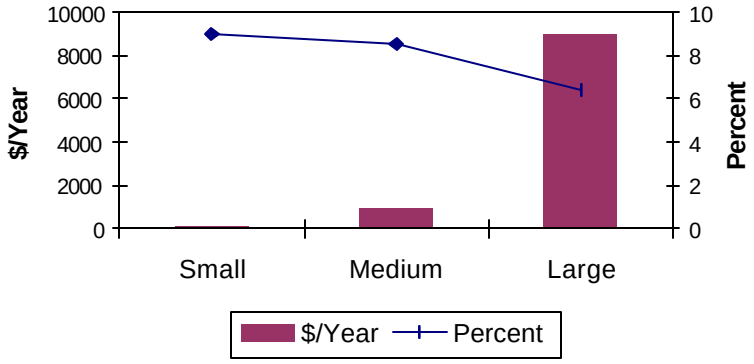
The cost of green products is frequently noted as the principal barrier to their adoption. Based on this sample, it would appear that the incremental cost of green power is significant, though perhaps not overwhelming. Sixty-nine percent of the respondents report that green electricity is costing them more than other available options, while 24 percent report that it costs them about the same and 6 percent claim it is costing them less. As noted earlier, this last statistic suggests that efforts to screen out customers for whom green power is the least cost option were largely successful. A greater fraction of utility customers report green power as costing more (86 percent) than marketer customers (52 percent). The average reported green premium relative to annual electricity expenditures, including those who reported receiving a discount or paying no premium, is 8.4 percent. Smaller firms are found to pay higher premiums on average (9 percent) than larger firms (6.4 percent). Figure 6 compares the relative cost of green power to utility and marketer customers.

Figure 6. Relative Cost of Green Power by Market Type



In aggregate, the total reported annual incremental cost of renewable energy for the respondents is $450,689, or an unweighted average of 8.3 percent.[7] The yearly incremental cost for small organizations averages $140 (9 percent), compared to $990 (8.5 percent) for medium organizations and $9,030 (6.4 percent) for large organizations. This is illustrated in Figure 7 along with the premiums in percentage terms. Although more numerous than the large organizations, small organizations pay only 6 percent of the aggregate incremental cost, compared to a 22 percent contribution by medium organizations and 72 percent for the large organizations. This last statistic shows that, while a minority of non-residential purchasers are truly large organizations, these customers contribute significantly more than smaller firms.

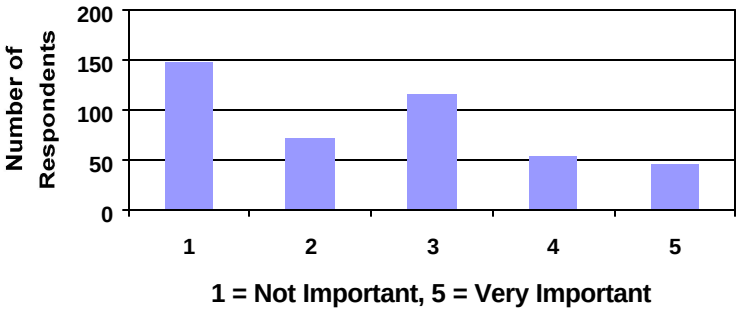
Figure 7. Average Green Power Premiums by Size of Organization



Some advocates have promoted the idea of bundling energy efficiency or other operational savings with the sale of green power as a way to make the green premium more palatable. The survey asked to what extent energy efficiency savings or electricity price reductions helped justify purchasing green power. According to respondents, energy efficiency and other cost savings are only modestly important. Figure 8 shows the frequency of response to this question. Fifty-one percent stated that these considerations were not important (defined as marking a 1 or 2), while only 10 percent indicated that these types of savings were very important (indicated by marking a 5). Customers of green power marketers ascribed somewhat more importance to these savings than did customers of utilities (on a 5-point scale, mean responses for the two groups were 2.7 and 2.2 respectively). Also, small customers rated energy efficiency savings more important in justifying the purchase of green power than did larger customers. Twenty-four percent said it was important (defined as marking a 4 or 5), compared to 20 percent of medium customers and 18 percent of large customers.

[7] The weighted average premium is 2.2 percent, derived by dividing the sum of all premiums paid, including negative premiums or discounts, by the sum of electricity expenditures. Several very large firms with high electricity expenditures and relatively small green power purchases lead to this result.

Figure 8. Importance of Bundling Cost Savings with Purchase of Green Power



2.2.3 The Green Power Procurement Process

Based on a query about how customers initially got started with green power, it appears that non-residential customer purchases are typically stimulated by initial contact from a green power provider. This should be expected for a new product in which customers have little if any previous experience. In aggregate, 50 percent of non-residential customers report that they were first approached by a provider, 24 percent say that they had taken the initiative to first approach a provider, and the remaining 26 percent state that a third party (e.g., community or environmental group) made the initial contact.

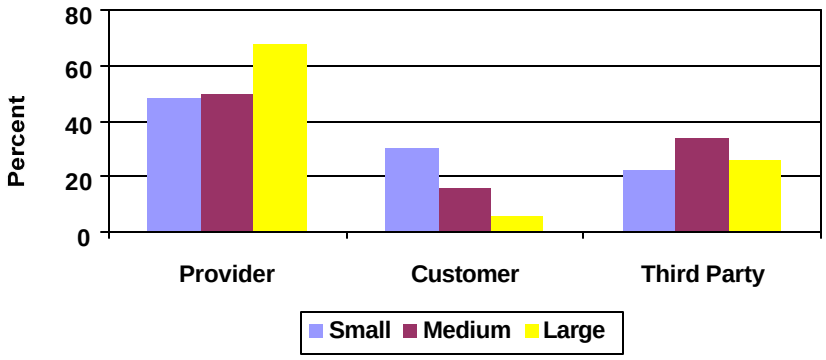
As shown in Table 4, regulated utilities seem to have been more successful in initiating contact with potential green customers than competitive marketers. Customers of marketers appear more likely – by a wide margin – to make the initial contact than customers of utilities. Non-profit and public-sector customers are more likely than business customers to take the initiative and make the initial approach themselves.

Table 4. Who Takes the Initiative in Initiating a Green Power Purchase?

Customer Type	Approached by a Provider	We Approached a Provider	Approached by a Third Party
Marketer Customers	40%	43%	17%
Utility Customers	57%	9%	34%
Overall Response	50%	24%	26%

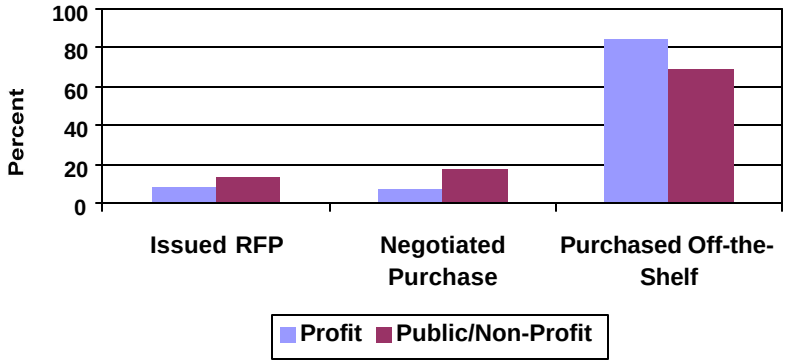
When controlling for customer size, larger organizations appear somewhat less likely to initiate their green power purchase (and more likely to be approached by a green provider) than smaller organizations. As shown in Figure 9, this suggests that larger customers – which generally represent much more sizable green power purchases overall – will generally need to be more heavily targeted by green power providers or third parties.

Figure 9. Who Makes the Initial Approach, by Type of Market



Those respondents purchasing green power in a competitive market were asked to report how they had gone about selecting a product. The vast majority of respondents (82 percent) state that they selected an "off the shelf" green power product without negotiating terms with their service provider. Only 9 percent report issuing an official request for proposals to receive multiple bids from marketers, with another 9 percent stating that they had negotiated with one or more marketers on contract terms. Responses to this question differed significantly across size categories, with 40 percent of the large organizations issuing an RFP versus 7 percent of the smaller organizations. Nevertheless, the majority of both large and small firms (60 and 85 percent respectively) selected their green product "off the shelf." Figure 10 shows that public sector and non-profit organizations were more likely to issue an RFP or negotiate a purchase, than for-profit firms. Public sector organizations in particular may be more likely to rely on RFPs because of competitive procurement requirements.

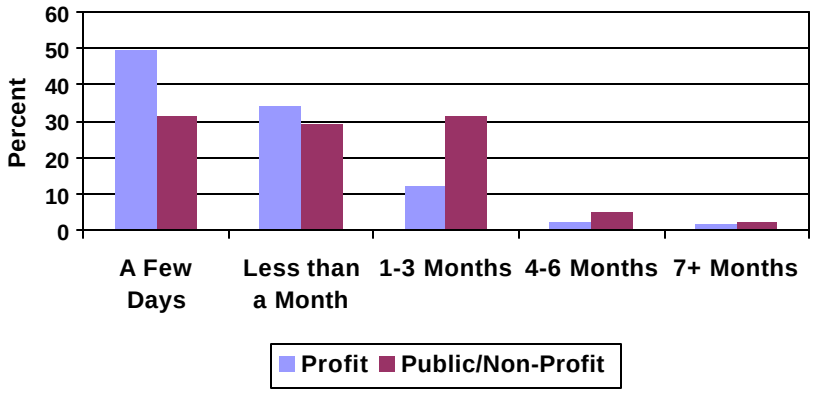
Figure 10. How Product Was Selected by Type of Organization



In general, the decision to purchase green power appears to be a quick one for most firms. Approximately 45 percent of respondents report that it took only a few days to move from initial contact with the provider to signing a contract. An additional 34 percent state

this process took less than a month. Only 21 percent of respondents said that it took them more than a month. There are no substantial differences between utility and marketer customers. As one would expect, however, those customers that purchased an "off the shelf" product generally took less time in purchasing green power than did firms who issued an RFP or negotiated with multiple marketers. This is illustrated in Figure 11, which shows that public and non-profit organizations took somewhat longer to reach a purchase decision, probably in part because they also tended to rely more on RFPs and negotiations. Similarly, larger firms were systematically more likely to spend more time in the contracting process than smaller firms (for example, 20 percent of small firms versus 30 percent of large firms spent more than a month).

Figure 11. Duration of Purchase Decision by Type of Organization



2.2.4 The Champion for Green Power

When caring for their customer accounts, utilities have historically focused their attention on the individual within each organization responsible for energy procurement. Because the purchase of higher-cost green power is driven by different motivations than traditional electricity purchases, we hypothesized that a focus on such individuals in marketing green power could prove fruitless. To test this hypothesis, one of the survey questions asked what unit within the organization was the champion for getting the green power contract signed and implemented. Table 5 reports the results from this question.

Table 5: Champion of Green Power by Organization Size

Organizational Unit or Department	Overall Response	Small Organizations	Medium Organizations	Large Organizations
CEO, owner or director	72.6%	77.3%	76.7%	42.6%
Marketing or public relations	5.5%	4.8%	6%	4.3%
Environmental	4.8%	5.2%	1.5%	10.6%
Finance or accounting	4.6%	2.8%	8.3%	4.3%
Facilities, energy, procurement	3.9%	1.2%	1.5%	25.5%
Parent company	0	0	0	0
Other*	8.6%	8.7%	6%	12.7%

* No single type of response dominated the "other" category

The vast majority of respondents (73 percent) name their CEO, owner, or director as the champion. For small organizations, 77 percent indicate that the owner was the critical advocate, followed by the environmental (5.2 percent), and marketing or public relations departments (4.8 percent). This is not surprising because small organizations often do not have the separate departmental units that pervade larger firms. Among large organizations, 43 percent named their CEO, owner, or director as the champion, with 26 percent naming their energy, facilities, or procurement department, 11 percent naming their environmental departments and 4 percent naming their marketing or finance departments. Apparently, the facilities, energy, or procurement departments still play a significant role, but especially CEOs/owners/directors and to a lesser extent environmental units also contribute to the purchase of green power.

2.2.5 Green Power Selection Criteria

Customers might use a variety of decision criteria in selecting both a green power supplier as well as a specific green power product. A better understanding of what non-residential customers are looking for in both a supplier and product is useful in exploring customer motivations for purchasing green power and can help marketers refine their product design and sales approach. Accordingly, as a component of the survey, customers were asked to rate the importance of various criteria in their selection of a green power supplier and product on a 5-point scale, with 1 = "not important" and 5 = "very important."

Table 6 reports the aggregated mean results and results by market type for supplier selection criteria. The socially responsible supplier criterion has the highest mean response, following by whether the supplier was easy to work with, had a good reputation, and appeared financially sound. Whether the supplier is local is of least importance overall. Except for the local company variable, supplier criteria were systematically viewed as less important by utility customers than by customers of competitive marketers. This is to be expected because, under a utility program, customers do not have a choice in their green power provider. As one utility customer noted, "Our reason for contributing was an investment in the future of wind power in general. It didn't have much to do with the local utility company." Few differences in mean rankings of selection criteria were found by organizational size.

Table 6. Rating of Supplier Selection Criteria (mean response on 5-point scale)

Supplier Selection Criteria	Overall Response	Utility Customers	Marketer Customers
• Appears socially responsible and committed to the environment	4.4	4.0	4.7
• Easy to work with/understands our needs	3.7	3.5	3.9
• Good reputation as supplier	3.5	3.2	3.8
• Appears financially sound	3.4	3.1	3.7
• Local company	2.9	3.4	2.3

Table 7 reports the aggregated mean results and results by organizational size category for product selection criteria. Overall, the percent of renewable energy is the most important product-based selection variable, followed closely by whether the customers' premium is used to support new renewable energy facilities (rather than existing facilities) and the type of renewable energy included in the product (e.g., wind, biomass, geothermal, solar). Several respondents commented simply, "It's the right thing to do."

Price, often thought to be the most important of all in product purchase decisions, emerges as the fourth most important criteria in this sample. Contract length and whether renewable generation is located in state are significantly less important. In general, smaller organizations appear more driven by the environmental quality criteria than larger ones, systematically rating the percent renewable energy, focus on new renewables, and type of renewables as more important factors than larger firms.[8]

Table 7. Rating of Product Selection Criteria (mean response on 5-point scale)

Product Selection Criteria	Overall Response	Small Organizations	Medium Organizations	Large Organizations
• Percent of renewable energy	4.2	4.4	4.1	3.6
• Focus on new renewables	4.0	4.1	3.9	3.7
• Type of renewable energy	3.8	4.0	3.4	3.5
• Price	3.5	3.4	3.4	3.6
• Product certified by 3rd party or endorsed by environmental org.	3.3	3.4	3.2	3.0
• In-state renewable generation	3.1	3.0	3.0	3.5
• Short contract or commitment length	3.0	2.8	3.0	3.1

A key finding to emerge from the data presented in Tables 6 and 7 is that green power customers systematically give more importance to the environmental repute of the supplier and the environmental content of the product than any other decision criteria. This finding suggests that the non-residential early adopters of green power represented in this sample are truly motivated by environmental issues and dedicated to their green power purchases.

2.2.6 Barriers to the Purchase

Anecdotal evidence provided by previous case studies of some of the larger green power purchasers in restructured markets suggested that a number of barriers are complicating the purchasing process (Mayer, Blank and Swezey 1999; Kasius and Seth 1998). These included complaints that green power providers were often unable to meet the needs of potential customers, that state regulations were thwarting real competition, that internal resistance to the purchase could be encountered, that the extra cost of green power was problematic, that information on the true environmental benefits of green power was

[8] Though the data are not shown here, we note that these trends are particularly apparent and strong among the utility customers.

scarce, and that some firms feared the increased scrutiny by environmental groups they might encounter after making and touting a green purchase.

These survey results, however, tell a very different story. Respondents were asked to rate on a 5-point scale how problematic a number of possible factors were in complicating their green power purchase (1 = not at all problematic; 5 = very problematic). As shown in Table 8, few respondents, among our sample at least, viewed any of the posited factors as having been formidable obstacles in their purchasing process. All of the potential factors rated between 1.2 and 2.3 on the 5-point scale. As one might expect, the extra cost of green power was rated the most significant barrier followed by incomplete information on the environmental benefits of green power, but neither was rated as particularly important overall. Apparently, difficulties with green power providers, state regulations, fear of increased scrutiny, and internal resistance were all even less problematic.

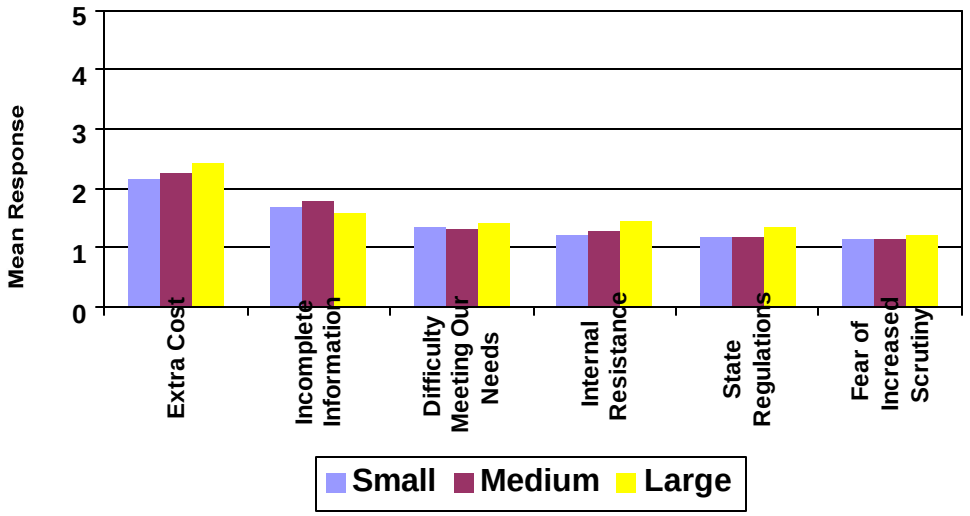
As might be expected, given the greater complexity of a restructured market, customers of marketers viewed as somewhat more problematic incomplete information and the fact that marketers had difficulty meeting their needs. For example, one marketer customer wrote, "We tried to convert and were told we needed a different meter, but it never happened." Another said, "Paying two bills is inconvenient. Is there any way around this?"

Table 8. Barriers to Purchasing Green Power (mean response on 5-point scale)

Possible Complicating Factor	Overall Response	Utility Customers	Marketer Customers
• Extra cost of green power was a serious hurdle	2.3	2.4	2.1
• Incomplete information on the environ. benefits	1.7	1.6	1.9
• Provider had difficulty meeting our needs	1.4	1.2	1.5
• Internal resistance by key decision makers	1.3	1.3	1.3
• State regulations were a barrier	1.2	1.2	1.3
• Fear of increased scrutiny by environ. groups	1.2	1.2	1.2

Figure 12 shows that larger organizations rated these factors as marginally more problematic than smaller ones did, suggesting that the larger organizations perceive the purchasing process to be slightly more difficult in general.

Figure 12. Barriers to Purchasing Green Power by Organization Size



2.2.7 Motivations for and Benefits of the Green Power Purchase

While company purchases of higher-cost green power products appear to run counter to the profit motivation of most firms, there are several possible reasons why organizations might choose to purchase an environmentally superior product. The survey attempted to determine which motivations were more important to the respondents and how stated motivations varied with customer characteristics. Specifically, respondents were asked to indicate the importance of several different considerations in influencing their organization's decision to purchase green power (5-point scale; 1 = not important, 5 = very important). Table 9 lists the possible motivations and shows the wording used to differentiate them.

Table 9. Motivations for Purchasing Green Power

Survey Description
• Lowest Cost: Green power is our cheapest electricity option
• Public Image of our Organization: Maintaining a "green" public image is important to us
• Catering to the Environmentally-Conscious: It is important that we accommodate the needs and concerns of our customers, shareholders, or constituents
• Organizational Values: Our organization feels a strong and pervasive commitment to public health and the environment
• Civic Responsibility: We feel a responsibility to be community leaders, not just for the environment
• Employee Morale: Employees feel more pride in an organization that is giving back to the environment
• Reduced Risk of Future Regulation: Our voluntary actions in support of renewable energy reduce the need for further government intervention and regulation

As revealed in Table 10, neither lowest cost nor a reduction of regulatory risk are ranked highly by the respondents. This is not surprising since green power is typically sold as a

premium product – lowest cost is therefore not relevant except in instances where subsidies have been able to lower the cost relative to other options. Nor would the purchase of green power have an obvious influence on the fate of future regulatory action, especially for the smaller firms that represent a majority of the sample.

More interesting are the remaining results, which suggest that altruistic factors (organizational values and civic responsibility) rank as the most prevalent motivations. One respondent wrote, "Using renewables is part of our corporate sustainability philosophy," and several commented, "It's the right thing to do."

Employee morale is also ranked highly. Public image and catering to the environmentally-conscious (shown as "catering to greens"), both viewed as potential motivators in the existing literature, are given secondary importance.[9] The relative emphasis on altruistic motives is supported by evidence presented earlier that the criteria used to select a product and supplier were heavily weighted towards environmental factors.

Table 10. Motivating Green Power Purchasers

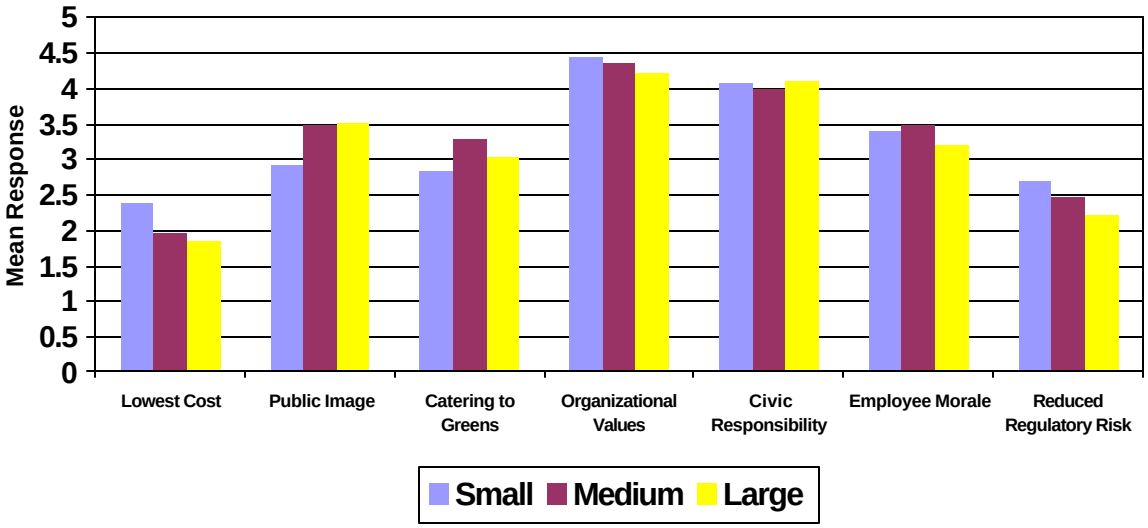
		Percentages				
Motivation	**Mean Response**	not important 1	2	3	4	very important 5
Organizational Values	4.4	2	3	9	23	62
Civic Responsibility	4.1	6	5	16	24	49
Employee Morale	3.4	14	10	23	25	28
Public Image	3.2	21	11	22	22	25
Catering to Greens	3.0	24	11	22	24	20
Reduced Regulatory Risk	2.6	38	13	17	15	17
Low Cost	2.2	42	20	24	8	7

When the data are examined by size of organization (Figure 13), some trends are apparent but the differences are not large. Public image and catering to greens, for example, assume slightly greater importance for larger organizations, and organization values are slightly less important, than for smaller organizations. In other words, larger organizations are somewhat less altruistic and are more interested in private benefits and the bottom line. In seeming contradiction, the small organizations place greater importance on lowest cost, but this is probably because the smaller firms predominate in the competitive marketer sample, including California where green power could be

[9] These last results are somewhat consistent with two recent studies. In the first study, only 15 percent of surveyed companies stated that "going green" would lead to increased customer loyalty; most respondents did not believe that their customers care if they demonstrated commitment to environmental improvement (Kalweit and Peterson 1999). In the second study, several large companies indicated that even if they were to purchase all of the green power their utility had to offer, they would be unlikely to gain public relations benefits (Mayer, Blank and Swezey 1999). It is plausible that nascent consumer awareness of green power will generally reduce the catering to greens and public image motivations.

obtained at the lowest cost. Civic responsibility and employee morale, while important, do not seem to vary much by size of organization.

Figure 13. Relative Importance of Motivations by Organization Size



2.2.8 Getting the Word Out

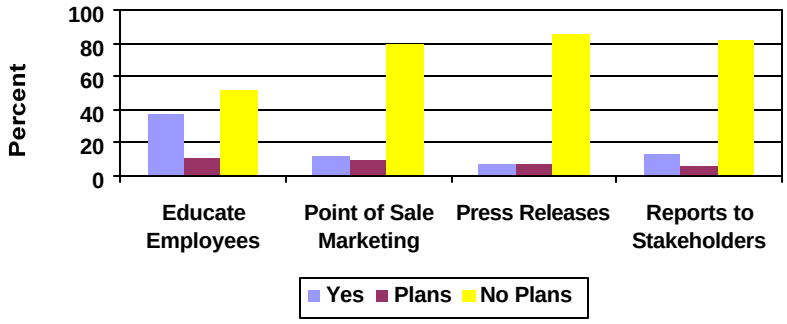
The survey further asked whether the respondents' organizations had engaged in or had plans to engage in any of a number of activities to "get the word out" about their green power purchase, including: (1) educating the organization's employees about green energy; (2) developing point of sale marketing or public education material; (3) issuing press releases announcing the green power purchase; and (4) highlighting the purchase in reports to shareholders, members, or funding sources. If non-altruistic concerns were principal motivators in the purchase decision, one would expect that such efforts would be commonplace. Respondents were asked to state "Yes, we have done this," "We're planning to do this," or "No plans to do this."

Figure 14 reveals that, with the exception of employee outreach, very little secondary marketing has taken place.[10] Nor do the vast majority of respondents have any plans to greatly increase their efforts in these areas. Forty-eight percent indicate that they have educated or have plans to educate their employees about green power, compared to 21 percent who say the same regarding point of sale marketing or customer education, 18 percent regarding reports of various sorts, and 14 percent regarding press releases. These results support the tentative conclusion reached earlier that altruistic motives have been a

[10] The question was asked about the customer's plans to publicize their purchases. In addition, customer purchases have received public relations support form the utility or marketer selling green power to them, usually in the form of press releases and recognition on websites, and occasionally listing in a print advertisement. Respondents sometimes mentioned this support in their written comments.

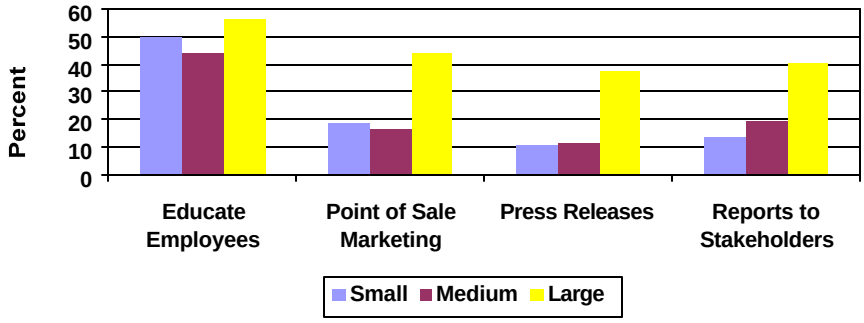
principal driver to green power purchases, followed by a desire to improve employee morale.

Figure 14. Activity to Publicize Green Power Purchase



However, the occurrence of these secondary marketing activities increased with the size of the organization, as shown in Figure 15. Large organizations, in particular, appear much more likely to publicize their green power purchases. A few respondents mentioned that they display window stickers or posters at their business.

Figure 15. Activity to Publicize Purchase by Size of Organization
(percent that has either done the activity or plans to do so)



2.2.9 Bandwagon and First Mover Strategies

Extracting material value from a green power purchase may further depend on the actions of an organization's peers. One could make a plausible argument, for example, that being among the first green purchasers would differentiate a firm and provide public relations and marketing benefits relative to a later purchase. Similarly, one might argue that once a large fraction of companies in a particular industry have switched to green power, it may be necessary to purchase a similar product to negate possible public image backlash.

As with previous research on the subject matter (Kalweit and Peterson 1999), the evidence is somewhat conflicting on such strategic use of a green purchase. In summary, while respondents seemed to downplay the importance of using green power purchases strategically, there is some indication that first mover advantages exist and, further, that once a large number of firms in an industry have taken the initiative with green power, competitors will be wise to follow suit.

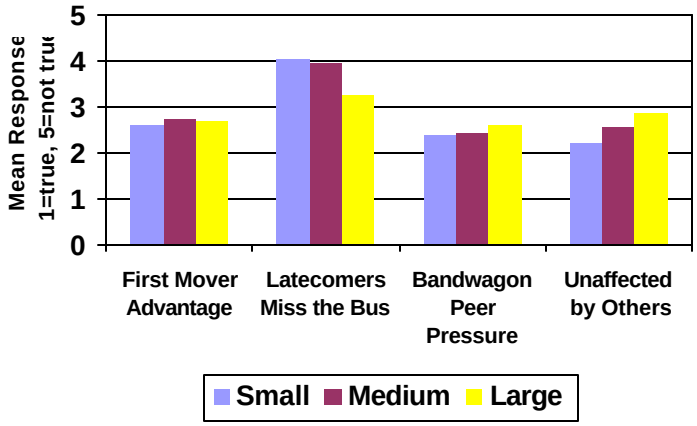
In particular, respondents were asked to indicate their degree of agreement with a number of questions related to bandwagon and first mover incentives (5-point scale; 1 = definitely true, 5 = not at all true). The results are summarized in Table 11. The majority of respondents (56 percent) agreed that their organization's decision to purchase green power was unaffected by the activities of their peers (defined as a rating of 1 or 2 on the 5-point scale). Only 26 percent of respondents disagreed with this statement (defined as a rating of 4 or 5). However, 40 percent of respondents agreed that being among the first to purchase green power is an effective way for a company to set itself apart (versus 20 percent that disagree), while 52 percent were in agreement that once a large number of their peers had purchased green power, it would become increasingly important for them to do so as well (versus 17 percent disagreement). Conversely, the majority (67 percent) disagreed with the idea that once a large number of companies in an industry had purchased green power, it would become *less* worthwhile for late adopters to purchase green power.

Table 11. Attitudes Toward Strategic Positioning

		Percentages				
Statement (paraphrased)	**Mean Response**	definitely true 1	2	3	4	not at all true 5
Being an early adopter provides advantage	2.7	24	16	40	11	9
Purchase is less worthwhile for latecomers	3.9	6	10	17	23	44
Purchase is increasingly important for late adopters	2.4	31	21	30	11	6
Purchase is entirely unaffected by others	2.4	40	16	19	15	11

Figure 16 shows the mean response by size of organization. Generally, large customers feel more strongly that latecomers lose public relations value, and they are slightly less likely to feel that they have to get on the bandwagon. But in seeming contradiction, the larger the company, the more they indicate that they are affected by the purchasing behavior of other companies.

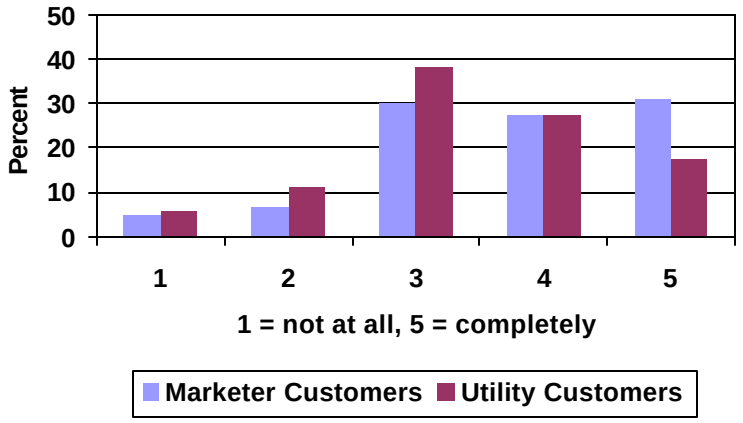
Figure 16. Attitudes Toward Strategic Positioning by Organization Size



2.2.10 Customer Satisfaction

Whatever the motivations of non-residential customers in selecting green power, and regardless of the barriers to those purchasers, the respondents to this survey are largely satisfied with their decision and state a high likelihood of continuing their purchase. In particular, respondents were asked whether their purchase had provided the benefits that they anticipated (5-point scale; 1 = not at all, 5 = completely). Fifty-one percent indicated that their green power purchase has provided the benefits that they anticipated (defined as marking a 4 or 5 on the response scale), and only 14 percent indicated that it has not provided anticipated benefits (defined as marking a 1 or 2 on the response scale). However, over one-third (34 percent) are in the middle, raising some question about their satisfaction. As shown in Figure 17, marketer customers appear slightly more satisfied with the benefits they have received (mean 3.78 on scale) than utility customers (mean 3.40). Marketers may indeed be doing a better job of delivering expected benefits, but this finding may also be a result of the fact that the utility sample includes larger customers that are more desirous of public recognition than the marketer sample of smaller customers.

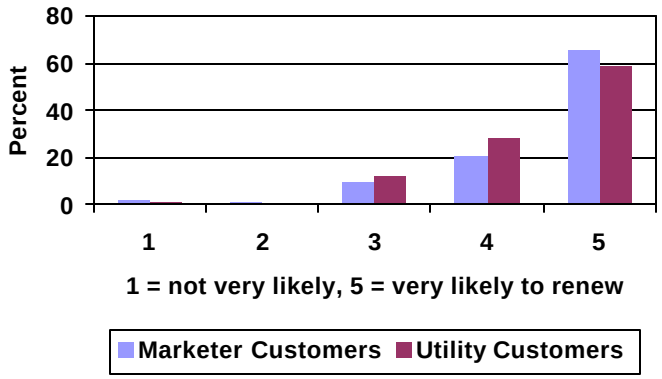
Figure 17. Satisfaction with Benefits Received by Market Type



Similarly, respondents were asked whether they will renew their green power purchase when the current contract or commitment ends (5-point scale; 1 = not very likely, 5 = very likely). Only 2.5 percent of respondents are unlikely to renew (defined as marking 1 or 2 on the response scale), compared to 87 percent of customers who indicate a likelihood of renewal (defined as marking a 4 or 5 on the response scale).

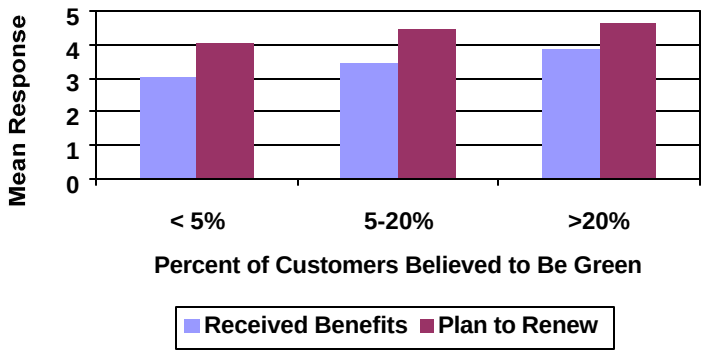
Both marketer customers and utility customers indicate a strong likelihood of renewing their purchase. Further detail is revealed in Figure 18, which shows that more marketer customers are *very* likely to renew (rating of 5) than utility customers (66 percent versus 57 percent), while more utility customers are likely to renew (rating of 4) than marketer customers (28 percent versus 21 percent). We speculate that this difference may be because the marketer customer sample includes more small businesses who may be able to state with greater certainty that they intend to renew. The larger customers in the utility customer sample, on the other hand, may expect to renew but because of the more complex decision making process they may be a little less certain.

Figure 18. Likelihood of Purchase Renewal by Market Type



Satisfaction with benefits received and likelihood of renewing their green power purchase both increase as organizations serve higher percentages of green customers. As shown in Figure 19, the mean responses to the same questions are arrayed against the percentage of product or service sales to customers who make a concerted effort to buy green products and services.

Figure 19. Satisfaction with Benefits Received by Green Customers



The vast majority of respondents expect to continue buying green power, despite a somewhat weaker satisfaction with the benefits received. This is good news for green power in the short term, but suggests a need for additional effort to determine exactly what benefits were expected and ways to deliver those benefits more effectively.

2.2.11 Policy Preferences

Support for renewable energy can come from one of two sources: voluntary purchases of green power products by consumers or collective public policy measures. While voluntary approaches to environmental policy have become increasingly popular in Europe and North America, public policy has historically been the principal mode of support for renewables. Contemporary policy options include the system-benefits charge (where all electricity consumers pay more for their electricity in order to raise funds to finance renewable energy projects), the renewables portfolio standard (where all utilities and power suppliers are required to include a minimum percentage of renewable energy in their supply portfolios), and further pollution taxes or regulations (where pollution from electricity generation is taxed or further regulated).

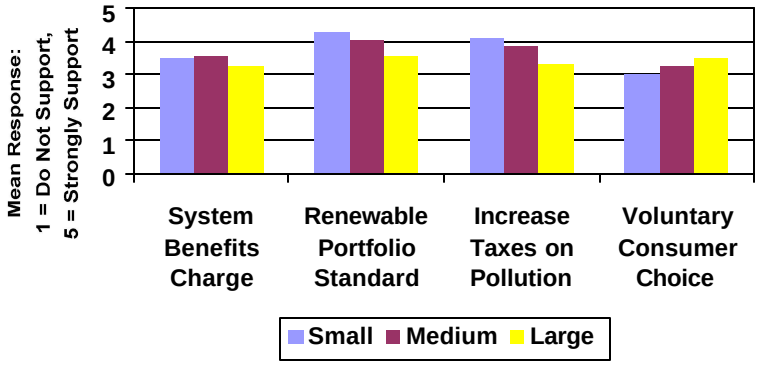
Further support for the importance of altruism in current green power purchases – and against the common presumption of strict profit-maximization – comes from responses to a survey question that asked respondents to rate their preference for different support mechanisms, including those identified above.

When asked to register their support for different ways to encourage renewable energy development, majorities of respondents preferred public policy measures over voluntary

consumer choice. In particular, on a 5-point scale (1 = do not support, 5 = strongly support), the RPS was the most supported of the options with a mean response of 4.2, followed by a pollution tax (3.9) and a system-benefits charge (3.5). Among these organizations that are currently purchasing green power, a voluntary approach to supporting renewable generation is the least preferred alternative with a sample mean of 3.1. These results may seem at odds with the fact that these respondents are members of the population that are following a voluntary approach. Yet they further demonstrate the commitment of these respondents to green power.

As shown in Figure 20, smaller firms are more supportive of the collective policy measures and less supportive of the individual voluntary approach than are larger firms (e.g., RPS: large firm mean = 3.6, small firm mean = 4.3; voluntary approach: large firm mean = 3.5, small firm mean = 3.0). This last finding supports the earlier conclusions that small organizations are more altruistically oriented and less motivated by private value than are their larger counterparts.

Figure 20. Preferences for Renewable Energy Support by Organization Size



2.3 Summary

Based on an analysis of 464 responses to this sample survey of non-residential customers buying green power, several points emerge.

Motivations

Based on a sample that contains 82 percent private businesses and 18 percent non-profit and public sector organizations, non-residential motivations are more altruistic than expected. One possible explanation may be that they represent the early adopters, who might be thought to be more altruistic in purchasing environmental products with public benefits. An additional explanation may be that 89 percent of them have annual revenues or budgets of less than $10 million per year. These smaller businesses tend to act more on their owners' personal beliefs and preferences than on strictly bottom-line considerations (Holt 1997).

Their leading motivations of organizational values ("Our organization feels a strong and pervasive commitment to public health and the environment") and civic responsibility ("We feel a responsibility to be community leaders, not just for the environment") are supported by behavior. Most have done very little to exploit the public relations value of their purchase. One would expect more of this after-purchase marketing to capture private benefits.

Employee morale ("Employees feel more pride in an organization that is giving back to the environment") made a surprisingly strong showing as a motivator. This is reinforced by behavior of the respondents in educating employees about the benefits of green power.

Segmentation

On a number of questions, there appear to be meaningful differences between large and small customers. Large customers, for example, do tend to be as concerned about public image as they are about more altruistic motivations. Reinforcing this view, they have consistently done more to publicize their green power purchases than smaller companies. They also tend to rely on a more diverse set of internal actors to champion the purchase of green power, than do smaller customers.

Distinctions between public/non-profit customers and for-profit firms are sometimes material, for example in terms of how they make their purchase decisions, but distinctions between manufacturing/wholesale and retail/services organizations are not particularly meaningful in this sample.

Differences between utility customers and marketer customers are frequently evident, but they are small. Marketer customers had more difficulty in finding a marketer that could meet their needs and had a slightly harder time obtaining useful information about the environmental benefits. Still, marketer customers seemed somewhat more satisfied with the benefits received and had a greater likelihood of renewing their purchase. Utility customers found the extra cost to be a slightly greater barrier than marketer customers.

Public Policy

Although this sample is already voluntarily choosing to buy green power, it voices stronger support for public policy as a way to encourage renewable energy than for relying on consumer choice to get the job done. This may reflect their strong commitment to green power and the environment. But again there is a difference between large and small organizations. The large firms in this sample are less supportive of policy measures and more supportive of the market than are smaller organizations.

Conclusions

It is difficult to extrapolate from this sample. Though admirable, it is not clear how widely altruistic attitudes pervade the non-residential market. Presumably altruism can go only so far, and therefore it is hard to judge the size of the non-residential market for green power.

By focusing on altruism alone, markets may be limited to smaller firms that reflect the personal beliefs of their owners or directors.

To reach larger firms, marketers and utilities should emphasize the private value of green power purchases. Large customers, while subscribing to altruistic motivations, are also interested in reinforcing or improving their green public image, and large customers, thought fewer in number, have a much greater potential impact on green power demand.

The results also suggest that sole reliance on the green power market may not lead to a socially-desirable supply of renewable energy, according to these respondents. Again with the caveat against extrapolating to a larger population, this sample at least supports public policies for renewable energy in addition to their own voluntary choice.

3 Interviews of Green Power Customers

This section summarizes the results of personal interviews with 14 non-residential customers that are purchasing green power. Several of these customers participated in the survey reported in the previous section. The purpose of going to these firms was to gain additional insights through a less rigid approach than a questionnaire. The greater flexibility allowed the interviewer to probe certain areas in more depth. Many of the same topics covered in the survey were included in the interviews, but the discussion focused on the customer's experience with their purchase and excluded discussion of public policy issues.

3.1 Methods

A list of about 30 large or easily recognized non-residential customers of green power was compiled from press releases, green power marketers, or utilities with green pricing programs. Multiple efforts were made to contact these customers. Ultimately, 17 non-residential electric customers were surveyed by telephone between June 8 and August 31, 2000. Of the 17 interviewed, two had not made an active choice to buy green power because they were switched automatically by their provider to take advantage of a green power subsidy in California. One company was involved with green power production but was not actually buying green power. These three companies are not included in these results.

Of the 14, three of them are state or local government entities, one is a non-profit institution, and 10 are for-profit companies. Of the companies, seven sell retail products or services, whereas three are engaged in manufacturing or wholesale trade activities. All of them are regionally large, if not national corporations. They are buying green power in the states of California, Pennsylvania, Colorado, Wisconsin, and New York.

In general, companies were asked questions on the same topics as in the survey previously described. Due to the nature of telephone interviews, the interviewer adjusted the questions based on the responses given and the direction taken by the interviewee. The topics discussed included: the product purchased, the decision-making process and factors considered, promotion of green power purchases, energy provider approaches to business customers, benefits of green power purchases, barriers to purchases, and general company/organization policy on environmental and social issues.

The interviewees purchased anywhere from 1 percent to 100 percent of their electricity from renewable sources. Some customers paid a premium; others were able to obtain a discount, depending on the market. Table 12 provides a list of the products purchased.

Table 12. Green Power Products Purchased

Provider	Product	State
Commonwealth Energy	standard service (100% renewable)	California
Green Mountain Energy	100% Renewable	California
Green Mountain Energy	Wind for the Future	California
Green Mountain Energy	Eco Smart	Pennsylvania
Green Mountain Energy	Enviro Blend	Pennsylvania
Madison Gas & Electric	100% wind block	Wisconsin
Public Service Co. of Colorado	100% wind block	Colorado
PG&E Corp. Madison Windpower	Pure Wind	New York

3.2 Green Power Purchase Decision-Making

About half the customers approached the energy provider and about half were approached by the energy provider. Of those that approached the provider, most had issued a request for proposals (RFP) or had specific contract requirements in mind (i.e. renewable content or price). Only two customers reported third party involvement: one was contacted by an environmental group that encouraged a green power purchase, the other contacted an environmental group for more information on renewable energy and environmental impacts.

For customers in regulated markets, only one supplier or product was offered, so there was only a decision to purchase or not. In the competitive markets, a supplier and product were often chosen after consideration of a number of factors (including environmental benefits, price and public relations value) or through a RFP process.

3.2.1 The Role of Existing Corporate Environmental Policies

Many of the customers surveyed had environmental policies in place that either generally encouraged pro-environmental actions or that specifically required them to purchase electricity from renewable energy.

One large corporation cited a specific corporate policy to give preference to renewable energy sources when feasible and noted their involvement in the ISO 14001 certification process for environmental standards.[11] Another customer noted they had a strategic energy plan that included energy efficiency commitments and increasing their use of renewable energy sources.

> New Belgium Brewing Company in Fort Collins, Colorado, used its green power purchase to offset the CO_2 released during its beer brewing operations. They had investigated a CO_2 recovery process, but found that purchasing wind power offset more CO_2 at a lower cost.

[11] ISO 14000 is a family of environmental standards offered by the International Standards Organization. Compliance with these standards offers companies a potential marketing advantage and may be required by some international trading partners.

3.2.2 The Decision Making Process

Some companies had an individual, panel, or group (often of executives) that reviewed the bids that came in for RFPs or that reviewed the energy provider's contract offer(s).

The following factors were considered in decision-making:

- general environmental benefits (all customers considered this)
- price (increase or decrease) (11 customers considered this)
- public relations benefit (6)
- Green-e certification (3)
- opportunity to exhibit leadership (3)
- encouraging the developing renewable energy market (2)
- contract length (1)
- California customer renewable energy credit (1)
- increased investment from "green" shareholders (1)

The decision-making chain varied from customer to customer. Some issued RFPs that were reviewed by a group of people who then made a recommendation to the final decision-maker. For smaller companies, the decision was made by an individual with little or no formal consultation with others.

The time it took to make the decision varied among the companies interviewed. Some customers took just minutes to think about it, others took months. One company did months of research (and consulted with a number of environmental groups) on the environmental issues before making a recommendation to executives who made the final decision. The longest decision making chain, from a real estate/facilities division up to the Senior VP of Administration, took six months before a purchase was made.

The final decision making authority varied from customer to customer. A city's decision was made by the City Council, one company's by the corporate Senior VP of Administration, one was made by a representative from a university office charged with coordinating the state's electric purchases. Other decisions were made by different executives.

One company held a meeting to explain the purchase option to about 100 employees and asked for their support, even if it meant a potential reduction in bonuses (through their profit sharing program) in order to pay the premium.

At the University of Colorado, some committed students at the school's environmental center took up the issue of buying green power. Working with the Land and Water Fund of the Rockies, an environmental group that had been urging the university administration to take this step for several years, these students waged a successful campaign to get the students themselves to make the decision. In a ballot initiative in April, 2000, students voted 5 to 1 to raise fees by $1 per semester to purchase the entire output of one wind turbine from Public Service Company of Colorado's WindSource program.

All of the employees supported the green purchase and many signed up for green power for their homes.

A company that purchased green power for locations in several states used a variety of different decision making pathways. In one region, the corporate office made the decision to purchase and designate funds to cover the premium. In other locations, branch managers were the final decision-makers, since any additional costs were taken directly out of their profits.

3.2.3 The Influence of Other Purchasers

None of the companies surveyed said they would have been influenced by competitors or other green power purchasers. Most respondents had policies in place that encouraged the decision to purchase green power. Almost all of the customers stated one of the primary decision points was environmental benefits. For those interested in the public relations benefits of a green power purchase, the decision was not solely about staying ahead of competitors, but the purchase did provide potential name brand recognition or reinforcement. This could potentially increase sales or keep the company ahead of competitors.

Even though they said they would not be influenced by others buying green power, a number of customers made comments about their potential to influence others to purchase green. Two customers felt they were playing a "leadership role" in being among the first to purchase green power.

3.2.4 A Business Decision

For most, the decision to purchase green power was a "business decision" rather than a "personal decision." Many spoke of the recent trend of companies becoming more aware of environmental issues and taking positive action and the purchase of green power following this general trend. This is especially true of those customers with environmental policies in place.

For others, there was a specific person (a "champion") who believed in the issue and pursued it, but the company policy was fully in support.

3.2.5 Early-Adopter Benefits

Several of the customers interviewed felt there was a potential leadership role that was very important to them. Few of the customers got as much "early adopter" or "innovator" publicity as they thought they would. One suggested that the public is not yet convinced of the importance of this issue, but after more companies sign up, there will be a better public discussion and then perhaps some hindsight early adopter recognition (such as "Hey, wasn't _____ one of the first to do this?"). Another green purchaser thought they would get more press coverage, but despite press releases and a press conference, coverage was buried in the back pages of local newspapers.

More importantly, many of the corporate policies encouraged purchasing green power as soon as it became available. The understanding was that these policies didn't encourage early purchases for public relations value, but rather for the environmental benefits.

Other comments from interviewees included, “It doesn’t matter when a company does it, as long as they eventually do,” and “If companies don’t do it on their own they will be forced to by legislation or public pressure.”

3.3 The Cost of Green Power

There were very few comments on pricing options. Most of the companies had negotiated unique contracts with which they were generally happy. One customer mentioned that it was very difficult to compare different bids because the generation source (“greenness”), contract length, and price were very different. In fact, they hired outside consultants to draft the RFP and compare the incoming bids to make a recommendation to the decision-makers. This customer has provided information on their approach to other companies and municipalities, who are now using it to develop their own strategies to purchase green power.

Two companies mentioned they liked the fixed price on blocks of wind offered by their provider. This allowed them some flexibility in purchasing green power and enabled them to purchase an amount they considered affordable.

If there was any consensus about pricing, it was that green power should be cheaper. One company's contract is coming up for renewal and they intend to get a better deal this time around because they have a better understanding of how to aggregate their demand and have more detailed information on their electricity usage.

Most of the customers were paying more for green power than they did for standard system power. The cost/kWh premium ranged from 0.5 cents/kWh to 5 cents/kWh. The following list is a sample of the responses received when asked about additional costs:

- 3-5 cents/kWh premium for 100% of total usage
- 2.5 cents/kWh premium for an "insignificant percentage" of total usage
- 0.5-1.3 cents/kWh premium for 5% of total usage
- 5% more for 100% of total usage
- 20% more for 100% of total usage
- $50, 000 more per year for an insignificant percentage of total usage

The variation in the way these amounts were reported is exactly as given by the respondents. Not all customers surveyed knew the total extra amount paid annually or the percentage extra paid or the total percentage of their usage coming from green power.

3.3.1 A Meaningful Purchase

Interviewees were asked how much green power they would have to purchase to demonstrate a meaningful environmental commitment. Few respondents had an answer to this question. One company had thought this through carefully and felt that energy conservation combined with buying 100 percent of electricity from the greenest product available was the only option that provided a real environmental benefit. Another buyer's approach was to start with 5 percent renewable content, and increase that over time (next year they will be at 6 percent). These situations are quite different – in the first case they had access to a 100 percent new wind product, state-funded energy efficiency programs, and a state renewable credit. The second case was an organization trying to show leadership while still being fiscally responsible to its citizens and in a market where no renewables were on-line.

3.4 Promotion of Green Power Purchases

Energy providers frequently provided promotion of green power purchases, through press releases and/or press conferences. Almost all the respondents seemed content with whatever sort of marketing help they received from their provider, yet they also voiced disappointment with the amount of public recognition received. One provider gave a customer the “this business buys wind power” stickers they posted around the store and ran a half page ad in a local newspaper with a picture of the company's staff. At the customer's semi-annual community festival, this energy provider hosted an information booth with a mock wind turbine.

Some customers listed one of their primary incentives for buying green as public recognition and brand reinforcement. Given this motivation, these companies did much more promotion than some of the others. The company mentioned above was motivated to buy green power, in part, for the potential to use it as a mechanism to connect with their customers. As a medium-sized, independent grocery store, they look for ways to reinforce their commitment to the local community. In one of the stores, they posted stickers on display cases and on check signing blocks near the cash registers to let their customers know that “this business buys wind power.” They also held a customer sign up campaign described in detail below.

Others companies did not publicize the purchase, and did not seem to be interested in doing so. One company had very specific reasons for not actively publicizing their purchase - they have a “very low key approach” and like to make sure they do things well internally before advertising to their customers. Even though they have never done any active publicity on their environmental or social programs, their customers view them as a socially responsible company. However, they will respond

Aspen Skiing Company publicizes their green power purchase along with other environmental commitments on an "Enviro-Card" handed out to customers. The card details what the company does to reduce its impact on the environment and gives suggestions on what the customer can do to help the environment.

to specific inquiries about their environmental programs and do have a small mention of the green power purchase on their website. One large purchaser publishes an annual environmental report that details the company's energy efficiency and renewable energy programs, but does no publicity.

One national company felt that incorporating their green power purchase into their advertising would interfere with corporate marketing messages. They did, however, have in-store displays with counter-top wind turbines and window stickers advertising their purchase. These in-store displays were very well received by the public, as well as by employees.

3.4.1 Role of Environmental Groups

Most of the respondents were not interested in having their green power purchase promoted by environmental or community groups. One large company said that promotion by the environmental community would be a double-edged sword. Another said they were not actively looking for that sort of thing, but if approached, it might be something their communications department would consider. This suggests that the environmental community may be useful in bringing green power to the attention of the customers and perhaps in marketing it, but may be less useful for public promotion of the customers and its purchase.

3.4.2 In-House Campaigns

Some respondents had done employee or customer campaigns.

One national company offered a referral program for employees, through which they received a fee from the energy provider for all employees who signed up for their residential service. The company was given roughly $30 per referred employee by the energy provider. With this money, the company gave employees a $10 certificate to Starbucks, a $10 certificate to Blockbuster Video, and two coupons for a free pint of Ben & Jerry's ice cream. Starbucks, Blockbuster and Ben & Jerry's were chosen because they were involved with the company in larger strategic business alliances.

Some companies would not do a direct sign-up campaign because their corporate policies prevent them from marketing another company's product to their employees. However, some did provide general educational materials to their employees about green power (for example, information on what is green power and what the environmental issues are).

3.4.3 Meaningful Recognition - Local, Regional, National?

For those that mentioned public relations value as a major benefit from purchasing green power, any level of recognition was valuable. One exception was the store seeking to connect with their local community - they considered local recognition to be most valuable. Thus meaningful recognition undoubtedly varies with the scale and geographic positioning of the organization.

3.5 Approaching Businesses about Green Power

One company mentioned that most large businesses already have a relationship with an energy provider representative and this person was the best contact to provide information on green power. Another purchaser received a direct mail piece and thought this was the best way. Two others thought that it was very important that businesses do their own research before discussions with energy providers. One of these found that providers were not prepared to be responsive to customer needs or requests for green power. Most of the respondents did not have particularly creative ideas on how to better approach businesses.

3.5.1 Compelling Messages

A number of the companies interviewed thought that environmentally-minded companies would sign up first and would not need much convincing. The next group would be interested in the public relations value and the ability to demonstrate an environmental commitment to their customers. Almost all of the respondents mentioned that their corporation was looking for a way to demonstrate good corporate citizenship and that green power purchases were an easy way to do that.

Another company felt that energy service providers had to offer more than the standard energy contract to entice business customers to purchase green power. They were very interested in unique business partnerships and “strategic business alliances” which could include exclusive contracts for providing their service(s) to the energy provider.

3.5.2 Role for Environmental or Other Third Party Groups

Although several interviewees were doubtful about the value of environmental groups publicly promoting their company’s green power purchase, some felt that environmental groups or third party groups could be good sources of information on the impacts of different types of renewables, information on companies that were building new renewables, or those that had made efforts to retrofit existing renewable generation sources.

A number of customers in competitive markets, including the City of Santa Monica and Toyota Motor Sales USA, looked at whether a product was Green-e certified and used this as one criterion in their search for a product. Some of these companies were interested in much "greener" products, but found the Green-e standard to be useful as a starting point for discussions with providers.

3.5.3 Benefits of Buying Green Power

All the companies interviewed mentioned the environmental benefits ("doing the right thing") and many mentioned public relations benefits.

Seven respondents purchasing green power in California had cost incentives. Two companies switched to their provider's lowest cost product, which was coincidentally green. Of the five others, three actually paid more for green power than they would for system power, and one paid less. The fifth customer has just recently dropped their contract for renewable energy, for a variety of reasons, but has a policy not to purchase green, unless it is lower than or equal to the cost of system power.

One company listed the four main benefits of this and other environmental programs as (1) marketing, (2) cost savings, (3) networking/outreach and (4) the right thing to do.

None of the respondents mentioned any emission credits or other programs as benefits of buying green power.

3.5.4 Removing Barriers

The interviewees said three things: Cheaper, Cheaper, Cheaper! Lower the costs and more businesses would buy.

A number of respondents dealing in competitive markets found it difficult to compare products given different renewable sources, cost, contract length, etc. Some found that Green-e certification made it easier to compare, but suggested that the difficulty in comparison might hinder a potential green power purchase.

One company purchasing green power certificates found the program to be an easy transaction, but questioned whether the premium was higher because it included certificates as well as the green power. This confusion could be a barrier to future purchases by other businesses.

3.6 Lessons Learned

The insights from these interviews largely confirm the findings from the mailed survey of green power customers. Because the interviews selected mostly large customers, interest in obtaining private benefits in the form of increased public relations value was more consistent than in the much broader sample of the survey.

3.6.1 Advice for Energy Service Providers

Based on these interviews, there are several lessons that energy service providers may wish to pursue.

Non-residential customers are an under-represented market for green power with significant untapped potential. Customers with a known environmental commitment and corporate environmental policies are most likely candidates for green power.

Providers should carefully evaluate large customers in their market. Although large customers tend to take longer to decide to purchase green power, individually they represent a much larger purchase potential.[12]

Larger customers, in particular, are interested in the added value that energy service providers can bring to a green power purchase. Many of the companies surveyed received marketing support from their provider. The energy providers issued press releases, ran print ads, and developed promotional materials that could be used by the customer to promote their green power purchase. Yet these customers were disappointed with the amount of public recognition they received.

Providers need to be more creative in marketing green power to businesses. Particularly for large customers, providers should approach them with a substantive yet flexible plan for maximizing private benefits. The plan would include public relations, but may also offer documentable CO_2 reductions or other tangible environmental benefits. Essentially, providers need to find out what the specific customer's needs are and create a product that meets that need.

Also for the larger customers, providers may need to be more flexible in their energy products in cases where customers want something better than just average green. This will require a strong energy portfolio to be able to customize products to individual customers, or a strong commitment to obtaining supplies that are not already under contract if the purchase is large enough to warrant it.

Some of these customers had difficulty identifying environmental benefits and comparing one offer to another with different terms and details. Providers should be clear about the environmental benefits, and be willing to work with large customers to explain differences among competing products and offers to make comparison easier.

3.6.2 Advice for Non-Residential Customers

The non-residential customers interviewed identified four benefits to buying green power: (1) environmental improvement consistent with company policy, (2) public relations or marketing value, (3) networking and outreach to other businesses or consumers, and, in some cases, (4) cost savings.

[12] Small customers pay an extra $140 per year for green power, on average, while large customers pay an extra $9,030 per year. See Section 2.2.2.

Customers, even small ones depending on their visibility or the size of their community, should consider the potential leadership role they can play through a public purchase of green power. They may be able to influence others to make a similar environmental statement.

Several interviewees encouraged potential buyers of green power to be well-educated on their electricity use as well as on the different products available, their costs and benefits. If they are large enough, they should consider using RFPs to initiate discussions with energy providers and to make their interest in renewables clear.

Many of the companies interviewed used existing communication channels (website, annual report) to publicize their purchase of green power. These low cost methods combined with promotion by energy service providers are an easy way for a company to advertise its green power purchase.

Many of the customers interviewed were nevertheless seeking additional ways to gain public relations value from their purchase. Involving employees or customers in an internal green power campaign was one way some companies were able to gain additional public relations value from their purchase. Customers should not leave it entirely to energy providers to think creatively about new ways to improve public image. They should contribute their own ideas as well and consider the promotion a joint undertaking.

No matter how creative the promotion of a green power purchase, since the public relations benefits tend to be less than anticipated, non-residential customers still need a strong environmental commitment or corporate policy at the core of their motivations.

4 Survey of Potential Green Power Customers

In addition to information about non-residential customers already buying green power, we believed it would be valuable to obtain insights into non-residential customers who are not known to be buying green power, but who may be more inclined than the average non-residential customer to do so. Customers with environmental interests are more likely to be early adopters, and are therefore more likely to have useful insights at this stage of market development.

This section reports on a mailed survey of these potential green power customers. It begins with a description of the survey methods and limitations. It then provides survey results by profiling the respondents to the survey, gauging awareness and extent of consideration of green power, identifying influencers and motivations to buying green power, and exploring potential barriers to a green power purchase. Continuing the presentation and analysis of results, it next explores selection criteria for electricity provider and green power product and identifies preferences for maximizing the value of a green power purchase. The analysis then turns to the question of strategic positioning around the timing of a green power purchase, followed by an examination of willingness to pay for green power, and ends with an assessment of public policy preferences for supporting renewable energy development. The section closes with a summary of the findings.

4.1 Methods

4.1.1 Survey Procedures and Sample

The target population of this survey was non-residential customers (primarily businesses but also non-profit organizations and public sector customers) in the United States that might be inclined to purchase green power. The survey focused on non-residential customers who are not known to be buying green power but who may be more inclined than the average non-residential customer to purchase green power. The survey sample intentionally was not randomly selected from all non-residential customers because we wanted to learn more about those customers with an assumed predilection towards green power. It was felt that those who would likely be the early adopters, and to whom green power products would be targeted, would have more useful insights at this stage of market development.

The sample population was obtained from attendance lists at environment conferences targeted to businesses and a list of subscribers to an environmental business journal. Starting with about 1250 names, the list was culled to 690 after eliminating (to the best of our ability) foreign addresses, academics, consultants, government, associations and trade groups, and duplicate names; and after reducing multiple listings for the same company to those at different addresses or with very different titles. The sample that remained represented mostly corporations from all across the United States. Judging from their titles, many of the individuals to whom the surveys were mailed were high level executives and personnel from Environment, Health and Safety departments.

The survey was mailed in June and July 2000. A follow-up reminder and additional copy of the questionnaire were sent to non-respondents of the initial mailing.

Table 13 shows that 11 percent of the sample responded to the survey. Many surveys were undeliverable because the individual had left the company or was no longer at that address. Several companies are already either purchasing green power or are in the process of negotiating a green power purchase, and therefore were asked not to complete the survey.

Table 13. Potential Customer Survey Response Rate

Market Type	Surveys Mailed	Undeliverable or Bad Addresses	Already Buying Green Power	Completed Responses	Response Rate*
Mixed – Both Regulated and Competitive	690	100	19	65	11%

* Calculated as: (completed responses) / (surveys mailed – undeliverable or bad addresses – already buying green power)

4.1.2 Questionnaire Design

The questionnaire itself was designed with four sections:

- After screening for whether or not the company is purchasing green power, the first section requested information on awareness of green power and whether the businesses had considered purchasing green power.

- The second section asked them to consider motivations and barriers to a hypothetical purchase of green power. It also explored the importance of various criteria in selecting a supplier and product, promoting the company's green power purchase, preferences for supporting renewable energy, and willingness to pay for green power.

- The third section asked one question about decision-making within the company.

- The last section of the survey requested basic information about the nature of the respondent's organization.

A number of questions in this survey were repeated from the survey of actual green power customers (described in Section 2 of this report) so that responses could be compared, but other questions were entirely new.

A draft of the questionnaire was reviewed by the Green Power Marketing Work Group of the NWCC. The final questionnaire is attached as Appendix B.

4.1.3 Methodological Limitations

This survey suffers from many of the same limitations described in Section 2.1.3, only more so.

- First, the target population is difficult to define precisely, being non-residential customers that may be inclined to buy green power, and it was difficult to obtain a representative list of potential customers.

- Second, non-response and selection biases are likely to be especially prevalent given the 11 percent response rate to the survey. Quite possibly, those that chose to return the survey are more interested in the concept of green power than those who were unwilling to respond. This bias makes it difficult to generalize from the respondents to the sample population much less the larger population of all non-residential customers.

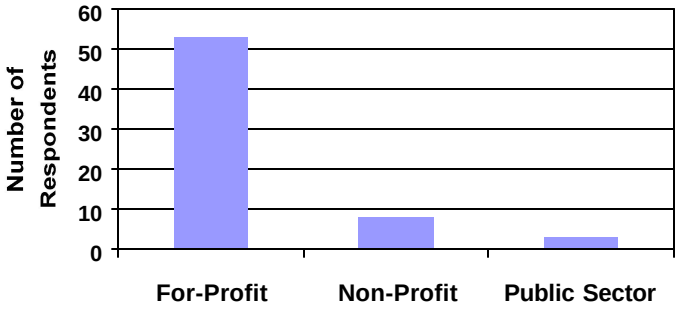
- Finally, the results rely on the stated attitudes and perceptions of the respondents to a hypothetical situation of purchasing green power. For a variety of reasons, attitudes may or may not reflect actual behavior.

4.2 Survey Results

4.2.1 Profiling the Respondents

The sample emphasis on for-profit companies was largely successful. Of the 65 respondents, 83 percent were for-profit companies, 13 percent were non-profit organizations, and 5 percent were public sector entities. For analysis purposes, the non-profit and public sector responses are combined. Of the for-profit companies, 45 percent are publicly held and traded while 55 percent are privately held. The actual numbers are shown in Figure 21.

Figure 21. Number of Respondents by Legal Organization

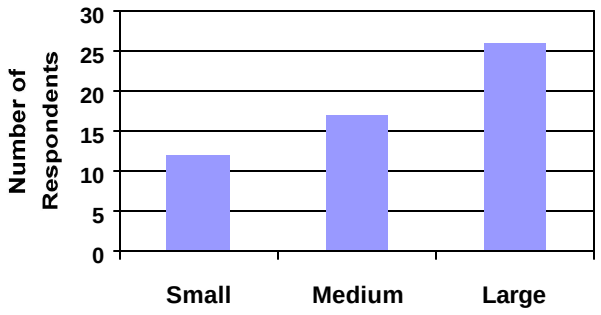


The respondents represented both primary industry, manufacturing and wholesale trade, in one category, and retail trade and services in another. The former accounted for 60 percent of respondents, and the latter 40 percent. Figure 22 shows the actual number of each that responded to that question.

Figure 22. Number of Respondents by Business Activity

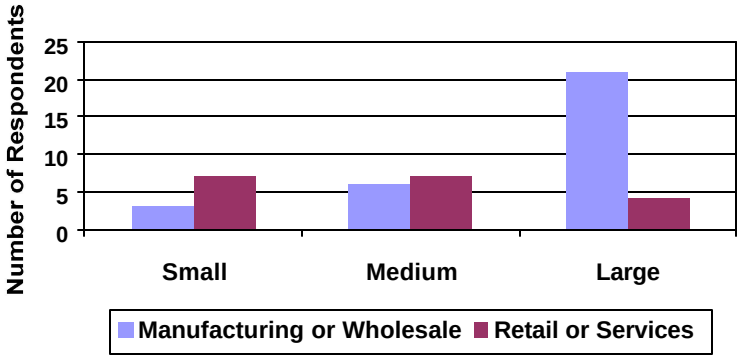
In comparison with the survey of green power customers, this survey of potential customers included a greater portion of larger customers. Forty-seven percent are "large" customers (defined as having annual revenues or budgets of over $10,000,000). The "medium" category is defined as having annual revenues of between $500,000 to $10,000,000, and account for 31 percent of the respondents. Finally, "small" customers, which represent 22 percent of the respondents, are defined as having annual revenues or budgets of less than $500,000. The actual number of respondents in each category are shown in Figure 23.

Figure 23. Number of Respondents by Size



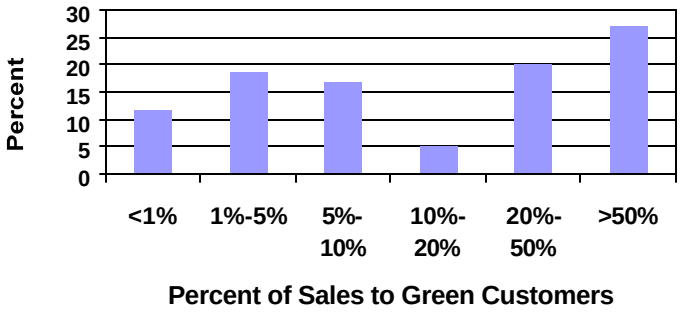
The manufacturing and wholesale respondents were considerably larger than the retail/services respondents, as shown in Figure 24. Seventy percent of the manufacturing and wholesale respondents were defined as large and only 10 percent as small. In contrast, 22 percent of the retail or services respondents were defined as large, but 39 percent were defined as small.

Figure 24. Size of Respondents by Business Activity



One of the survey questions asked what percentage of the company's product or service sales were thought to be to customers that make a concerted effort to buy green products and services. Of the respondents, 47 percent state that over 20 percent of their customers make such a concerted effort (the same as in the survey of green power buyers), whereas 22 percent report that they believe between 5 and 20 percent of the market they serve is environmentally-oriented. Thirty-one percent state that less than 5 percent of their customers make such efforts. The results are shown in Figure 25. It is interesting that the answers to this question were very similar between this survey and the survey of actual green power customers.

Figure 25. Respondents with Customers Making a Concerted Effort to Buy Green Products



4.2.2 Green Power Awareness

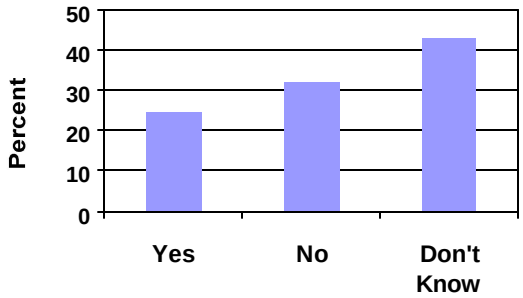
Since these customers were not known to be purchasing green power already, and even their awareness of the term was uncertain, they were first given a description of green power:

> Green Power generally refers to electricity supplied from renewable energy sources such as wind, solar, hydro, biomass, and geothermal power. The essential feature is that green power offers environmental benefits by reducing impacts on air quality. Nearly one-third of all U.S. consumers currently have the option to voluntarily purchase green power, either from their regulated utility or from competitive green power marketers in restructured electricity markets in California, Pennsylvania, and other states. As competition spreads in the electric power industry, and more utilities see value in green power, more consumers will have this choice.

Respondents were asked whether it had previously heard of green power being offered as a differentiated product to homes and businesses anywhere. Eighty-three percent answered yes, versus 17 percent that said no. This same pattern held for small, medium, and large customers and for manufacturing/wholesale and retail/services customers. This suggests that general awareness is widespread, although respondents to the survey may have self-selected based on an awareness and interest in green power.

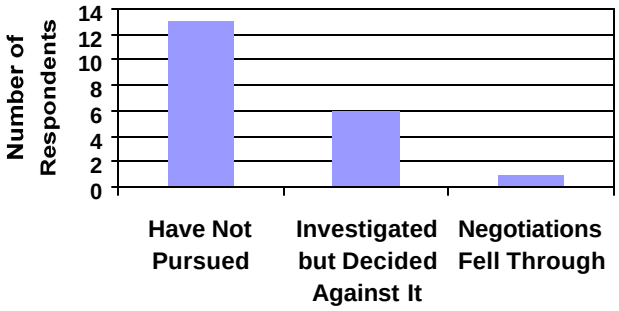
Asked whether a green power option is currently available "to your company at one or more of your locations," however, respondents indicated much greater uncertainty, as shown in Figure 26. Forty-three percent said they don't know. An additional 32 percent answered no, leaving just 25 percent (16 respondents) believing that a green power product is available to them. Again, a similar pattern was true for small, medium, and large customers and for manufacturing/wholesale and retail/services customers. Taken together, the responses to these two questions imply that general awareness of green power is high, but specific knowledge is low. Marketing efforts may have to begin by educating customers about the availability of green power in their area.

Figure 26. Availability of Green Power



Presumably because of the uncertainty about or lack of availability of green power, just 20 respondents answered the question, "To what extent have you considered the purchase of green power?" Respondents that said it is not available, or that were uncertain about its availability, tended not to answer the question. As shown in Figure 27, thirteen had not pursued it at all, six had investigated the purchase of green power but decided against it at this time, and one had entered negotiations to buy green power but these ultimately fell through. A few additional respondents commented that they are now investigating options.

Figure 27. Consideration of Green Power



4.2.3 Motivations for and Benefits of the Green Power Purchase

As with the survey of green power customers, this survey tried to understand which motivations were more important to the respondents. First, green power providers and advocates need to know to whom they should take their message. Therefore, these respondents were asked to rate the degree of influence of various groups on the organization's decisions to buy environmentally-responsible products (5-point scale: 1=not influential, 5 = very influential). Note that this question is different from asking who within the company is likely to be the primary advocate for green power, explored later in Section 4.2.4. Instead, this question asked about more general influencers. Table 14 summarizes the results.

Table 14. Who Influences Decisions to Buy Environmentally-Responsible Products

		Percentages				
Influencers	**Mean Response**	not important 1	2	3	4	very important 5
Top Management	4.5	2	2	6	26	65
Board of Directors	3.4	17	7	16	36	24
Customers	3.3	13	20	21	23	23
Employees	3.3	11	13	32	29	15
Shareholders	3.2	18	11	23	29	20
Local Communities	3.0	13	18	43	13	13
Environmental Regulators	2.7	22	27	25	13	13
Environmental Groups	2.5	21	33	28	15	3
Suppliers of Goods & Svcs	2.4	27	30	27	12	5

It is clear that top management is by far the most influential in deciding to purchase environmentally-responsible products. Boards of directors, customers, employees, shareholders, and local communities also have some influence, but quite a bit less than top management. Environmental regulators, environmental groups, and suppliers of goods appear to have little general influence in the purchase of environmentally-responsible products. Several respondents noted that as tenants in their buildings, the decision is in the hands of the building owner or manager.

Regardless of the size of the organization, the rank order of their responses remained about the same as the overall sample. There were also no meaningful differences between wholesale and retail companies in this sample.

Respondents were also asked to indicate the importance of several considerations in the company's decision to buy green power (5-point scale: 1 = not important, 5 = very important). These possible motivations are the same as those asked in the survey of green power purchasers, with the exception of Lowest Cost: Green power is our cheapest electricity option, which was excluded. For convenience they are listed again in Table 15.

Table 15. Motivations for Purchasing Green Power

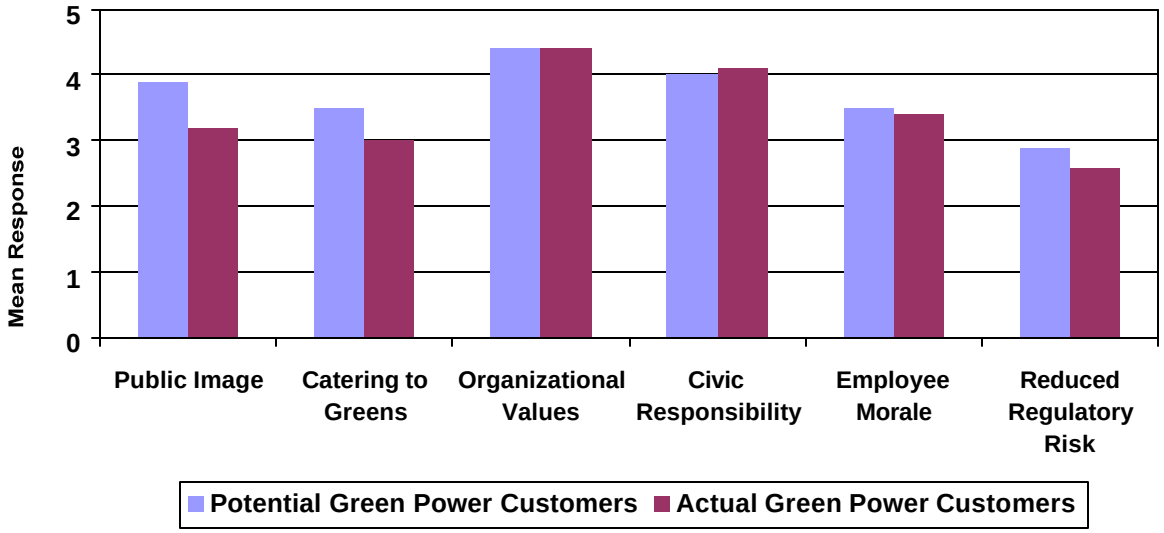
Survey Description
• Public Image of our Organization: Maintaining a "green" public image is important to us
• Catering to the Environmentally-Conscious: It is important that we accommodate the needs and concerns of our customers, shareholders, or constituents
• Organizational Values: Our organization feels a strong and pervasive commitment to public health and the environment
• Civic Responsibility: We feel a responsibility to be community leaders, not just for the environment
• Employee Morale: Employees feel more pride in an organization that is giving back to the environment
• Reduced Risk of Future Regulation: Our voluntary actions in support of renewable energy reduce the need for further government intervention and regulation

As revealed in Table 16, reduced regulatory risk is not very important to the respondents. Although it does increase in importance as organization size increases, it is still the least motivating factor for all size categories. Once again, the more altruistic motivations of organizational values and civic responsibility are rated the most important considerations, though employee morale drops behind public image in rank order, and is tied with catering to the environmentally-conscious (referred to here in abbreviated form as "catering to greens"). This shift in rank order from the survey of green power purchasers is probably due to the larger organization size of this sample. There were no meaningful differences among responses by size of organization or by business activity. The overall comparison between the two survey responses is shown in Figure 28.

Table 16. Motivating Green Power Purchasers

Motivation	Mean Response	Percentages: not important 1	2	3	4	very important 5
Organizational Values	4.4	0	2	17	25	57
Civic Responsibility	4.0	2	3	24	38	33
Public Image	3.9	5	9	17	32	37
Catering to Greens	3.5	6	6	37	27	23
Employee Morale	3.5	6	8	31	35	19
Reduced Regulatory Risk	2.9	14	22	38	14	11

Figure 28. Relative Importance of Motivations, Two Surveys



By rating public image and catering to greens higher, it appears that potential green power customers want more private value from their purchase. Reduced regulatory risk ranked higher too.

From the comparison of overall ratings, it is not clear whether this survey of potential customers is really telling us something different from the survey of actual customers, or whether the differences are attributable to the different average size of the respondents to the two surveys. (We should also remember that the number of respondents to the potential customer survey is quite small.) For example, the survey of actual customers contained 11 percent large customers, while the survey of potential customers contained 47 percent large customers. Therefore, the mean response for the two samples was compared within each size category, as shown in Table 17.

Table 17. Importance of Motivations Compared, by Organization Size

	Mean Response					
	Small		Medium		Large	
Motivation	**Actual** n=249	**Potential** n=12	**Actual** n=137	**Potential** n=17	**Actual** n=47	**Potential** n=27
Organization Values	4.5	4.5	4.4	4.4	4.2	4.2
Civic Responsibility	4.1	4.4	4.0	3.6	4.1	3.9
Public Image	2.9	3.9	3.5	3.8	3.5	3.9
Employee Morale	3.4	3.4	3.5	3.8	3.2	3.5
Catering to Greens	2.8	3.4	3.3	3.6	3.0	3.5
Reduced Risk of Regulation	2.7	2.0	2.5	2.8	2.2	3.1

Table 17 suggests (insofar as the low response from potential customers supports conclusions) that the differences between the two surveys, in terms of motivations, are meaningful. Potential and actual customers ascribed similar importance to the altruistic motives of organization values and civic responsibility. But in each size category, the potential customers placed greater importance on private benefits of maintaining a green public image, and catering to greens, than did the actual customers. Potential customers also placed slightly greater importance on employee morale than did the actual customers. An important conclusion from these results is that potential green power customers still subscribe to altruistic motivations, but they will need to be convinced that the private market gains or other benefits are tangible.

4.2.4 The Internal Advocate for Green Power

To sell anything effectively usually requires speaking to one or more key people who will influence, if not make the decision to buy. As the survey of actual green power customers showed, this is frequently not the person responsible for energy procurement. In this survey of potential non-residential customers, respondents were asked what unit within the company is most likely to be the primary advocate for getting a green power contract signed and implemented. Table 18 reports the results from this question. Again, because of the small number of respondents in the organization size categories, the more detailed results must be viewed with caution, but they are consistent with the results from the survey of actual green power customers.

Table 18. Primary Advocate for Green Power by Organization Size

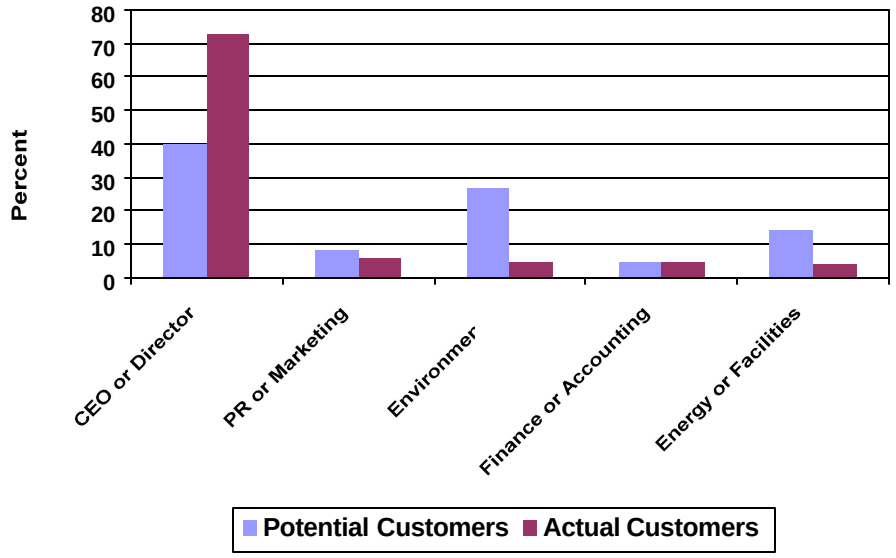
Organizational Unit or Department	Overall Response	Small Organizations	Medium Organizations	Large Organizations
CEO, owner or director	40%	82%	67%	19%
Environmental	27%	0%	11%	50%
Facilities, energy, procurement	14%	9%	6%	22%
Marketing or public relations	8%	0%	11%	6%
Finance or accounting	5%	9%	0%	0%
Parent company	5%	0%	6%	3%

Reflecting the larger organization size of this sample, just 40 percent of these respondents name their CEO, owner, or director as the primary advocate, compared to 73 percent of the respondents to the survey of actual green power customers. Environmental departments (27 percent) and facilities, energy, or procurement departments (14 percent) reflect a variety of possible advocates. For small organizations, the vast majority (82 percent) indicates that the owner is most likely to be the critical advocate. This is still true for medium sized companies (67 percent), but here the marketing or public relations departments take on greater importance, along with the environmental department, both at 11 percent. Among large organizations, just 19 percent named their CEO, owner, or director as the most likely advocate, with 50 percent naming their environmental department and 22 percent their energy, facilities, or procurement department.

Finally, two respondents wrote in that the decision would be made by the building owner and was out of their hands. Obviously, companies renting space in a building with multiple tenants, or where they do not receive or pay the electric bill, are not empowered to make the choice of energy product.

Figure 29 compares the overall response of this sample to the response to the survey of existing green power customers. The more prominent role attributed to environmental departments in this sample of potential green power customers may be a result of a greater proportion of large firms in this sample. It may also be influenced by the fact that many of the people to whom the potential customer surveys were addressed were associated with environmental, health and safety departments. It is also possible that among the actual customer sample, environmental departments were not targeted by green power providers in their sales approach or by environmental advocates marketing utility programs.

Figure 29. Primary Advocate for Green Power Purchase, Two Surveys



4.2.5 Barriers to the Purchase

Perceived barriers to buying green power are important to an understanding of what issues must be addressed by utilities and marketers. The sample was asked, "If your organization were considering a green power purchase, how likely are the following factors to complicate your decision-making process?" They were asked to rate their responses on a 5-point scale: 1 = not likely to complicate, 5 = very likely to complicate. The options and the responses are shown in Table 19. The extra cost of green power easily rated as the highest barrier, and "Utility or Service Provider difficulty in meeting our needs or otherwise being difficult to work with" came in a high second. Incomplete information and state regulations were viewed as moderate complications to the process, and internal resistance and increased scrutiny were viewed as of least consequence. One respondent noted, "We lease office space and have no influence on the building owner," and another wrote in the same vein, "We would love to buy green power but any decision-making is up to the building owner."

Table 19. Barriers to Purchasing Green Power (mean response on 5-point scale)

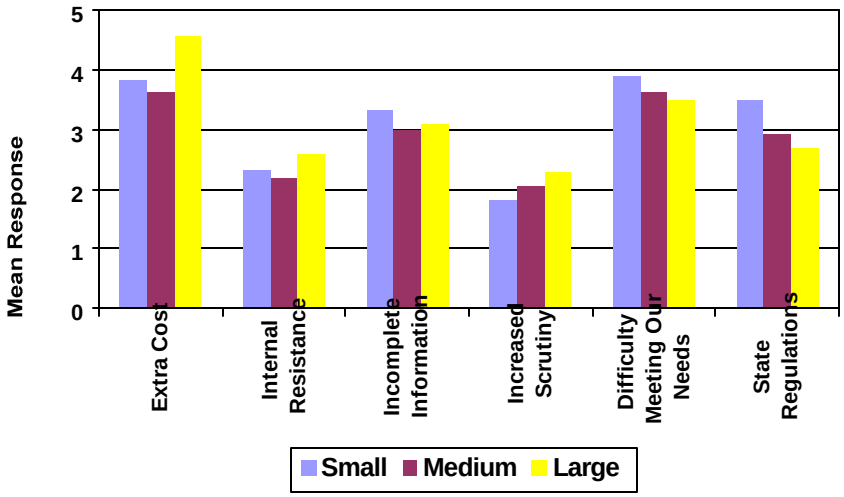
Possible Complicating Factor	Overall Response	Manufacturing Wholesale Customers	Retail Services Customers
• Extra cost of green power	4.1	4.5	3.5
• Provider or utility difficulty meeting our needs	3.7	3.6	3.7
• Incomplete information on the environmental Benefits	3.1	3.3	2.9
• State regulatory barriers	2.9	2.9	3.0
• Internal resistance by key decision makers	2.4	2.7	1.9
• Increased scrutiny by environmental groups	2.1	2.2	2.0

There were some differences between the manufacturing/wholesale businesses and the retail/services businesses that are also highlighted in Table 19. Two of these differences are sizable. The extra cost and internal resistance were seen as much more significant barriers to the manufacturing/wholesale sector than to the retail/services sector, but the reasons for this are unclear. The extra cost may be perceived as a greater barrier for manufacturing/wholesale companies because they are more energy-intensive, and they many assume that they will have to pay a premium on more green kilowatt-hours. As to the difference on internal resistance, retail firms may see greater opportunity to extract private value from a green power purchase because they are closer to end-use customers. Both of these differences suggest that providers may want to place greater emphasis on marketing to retail and services firms.

There are also differences by size of company, as shown in Figure 30. Keeping in mind the caveat about the small sample size, larger firms judged the extra cost and increased scrutiny to be a more significant barrier than did the smaller firms. Presumably increased

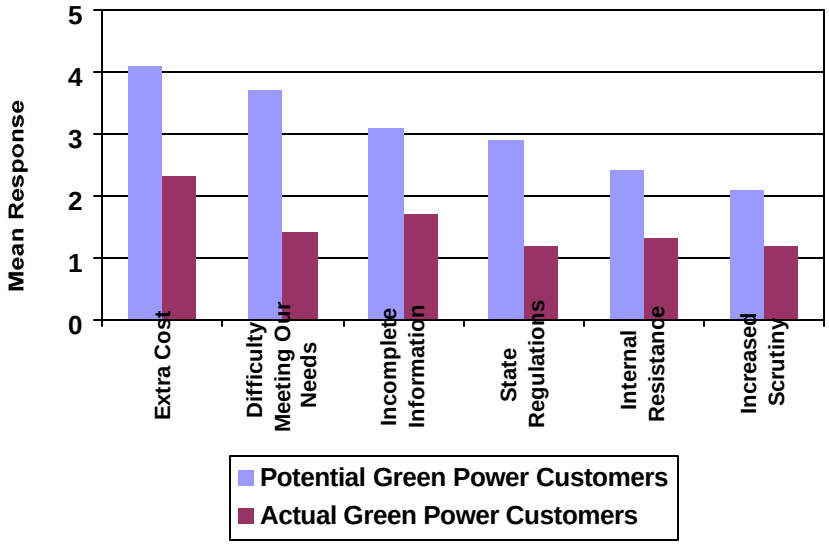
scrutiny comes with the territory for larger firms. They may assume that they have to purchase a much larger quantity of green power at a higher cost as well. On the other hand, smaller firms thought that their providers would have more difficulty in meeting their needs, and that state regulations would be more of a barrier. The reasons for these tendencies are unclear. Perhaps smaller businesses feel that they get inadequate attention from their providers and that governmental regulation in general is more problematic for small businesses with limited staff.

Figure 30. Barriers to Purchasing Green Power by Organization Size



Finally, it is interesting to compare the responses to this survey with the responses to a similar question on the survey of actual green power buyers. The latter group rated these factors as much less significant than these potential green power buyers, as shown in Figure 31. There are two ways to interpret these findings. The first is that the perception is worse than the reality. Perhaps it is the fear of the unknown or less experience with choice that leads these respondents to perceive these factors as more likely to complicate the decision-making process. The second interpretation is that the low-hanging fruit has already been gathered (in these markets), and the potential customers really do face higher barriers. In any event, what this means for utilities and marketers is that they need to work hard not only to reduce the extra cost, but also to reduce the perception that these barriers are a big problem.

Figure 31. Relative Importance of Barriers, Two Surveys



4.2.6 Green Power Selection Criteria

It would be interesting and useful to know how prospective non-residential customers would choose a supplier and a green power product, given the opportunity. This sample was asked to rate the importance of various criteria in selecting a green power supplier and a green power product on a 5-point scale, with 1 = not important and 5 = very important. The criteria were the same as in the earlier survey of actual green power buyers, and the results are shown in Table 20.

The responses to supplier criteria show that a supplier's financial position, and its general reputation as a supplier, are of greatest importance to this sample, followed closely by easy to work with and understands our needs. Social and environmental responsibility, while not rated low at 3.9, is judged fourth in importance. Analysis of the data reveals little difference between manufacturing/wholesale and retail/services companies, except that retail/services place somewhat greater importance on social responsibility of the supplier, including its commitment to the environment. Differences between small, medium and large companies, also shown in Table 20, are small.

Table 20. Rating of Supplier Selection Criteria (mean response on 5-point scale)

Supplier Selection Criteria	Overall Response	Small	Medium	Large
• Appears financially sound	4.4	4.2	4.4	4.6
• Good reputation as supplier	4.4	4.3	4.4	4.4
• Easy to work with/understands our needs	4.3	4.3	4.3	4.4
• Appears socially responsible and committed to the environment	3.9	4.2	3.5	4.0
• Local company	3.0	2.5	3.2	3.0

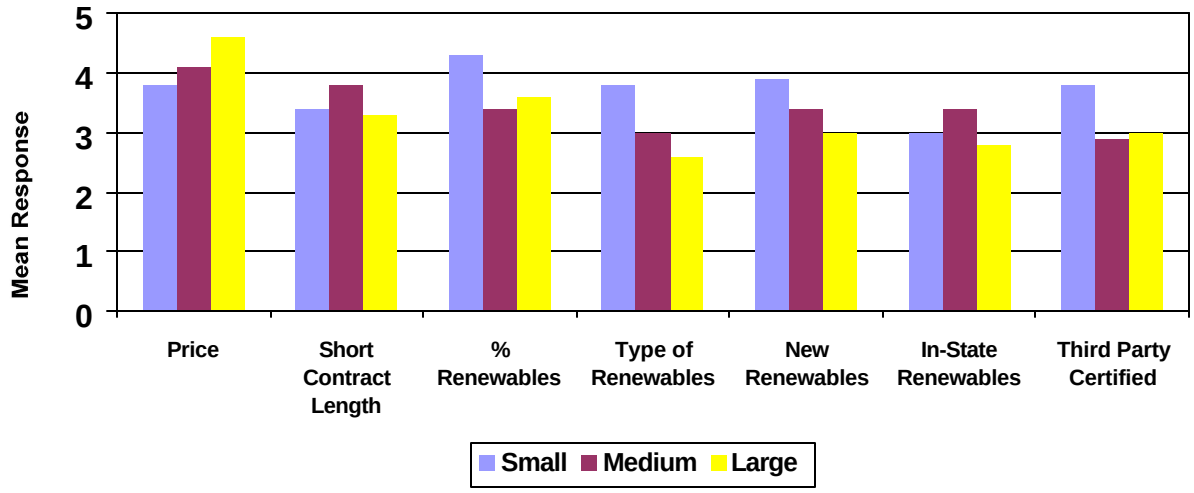
The sample was also asked to rate the importance of various green power product selection criteria. The results are shown in Table 21. Overall, price is the most important criterion, followed by percent of renewable energy and short contract or commitment length. New renewables, third party certification or endorsement, the type of renewables, and in-state renewables are all clustered closer to the middle of the range of importance.

Table 21. Rating of Product Selection Criteria (mean response on 5-point scale)

Product Selection Criteria	Overall Response	Small Organizations	Medium Organizations	Large Organizations
• Price	4.3	3.8	4.1	4.6
• Percent of renewable energy	3.7	4.3	3.4	3.6
• Short contract or commitment length	3.5	3.4	3.8	3.3
• Focus on new renewables	3.3	3.9	3.4	3.0
• Product certified by 3rd party or endorsed by environmental org.	3.2	3.8	2.9	3.0
• Type of renewable energy	3.2	3.8	3.0	2.6
• In-state renewable generation	3.1	3.0	3.4	2.8

Figure 32 also illustrates the differences among small, medium, and large firms. Conventional wisdom has it that large firms are more price-sensitive, and this seems borne out by the data. Small firms, perhaps reflecting more the personal values of the owner/respondents, tend to place greater importance than their larger counterparts on percent renewables, type of renewables, new renewables, and third party certification. These results are consistent with the findings of the survey of actual green power customers: large firms are more interested in price and are less altruistic, while small firms are more interested in the environmental attributes of the product.

Figure 32. Product Selection Criteria by Organization Size



Clearly there are differences between the responses to the first survey of actual green power customers and the responses to this survey of potential green power customers, as shown in Figures 33 and 34. Although the potential customer sample is small, they seem to be more interested in general criteria, while the actual customers appear to be more interested in environmental criteria. Although it cannot be said for certain, these differences may be due to lack of familiarity with green power by these potential customers, a lack of thinking through its benefits and costs, or simply not having considered it very closely. Or maybe the actual green power customers represent a tiny niche that is not easily expanded, at least to the sample population used for this survey.

Figure 33. Supplier Selection Criteria, by Two Surveys

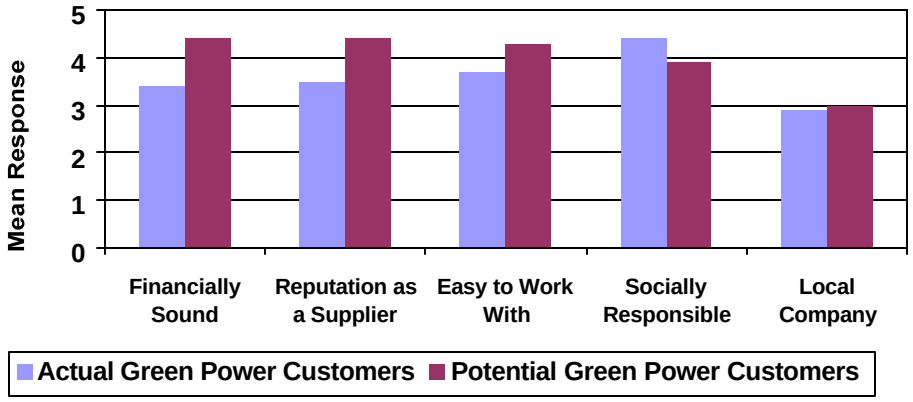
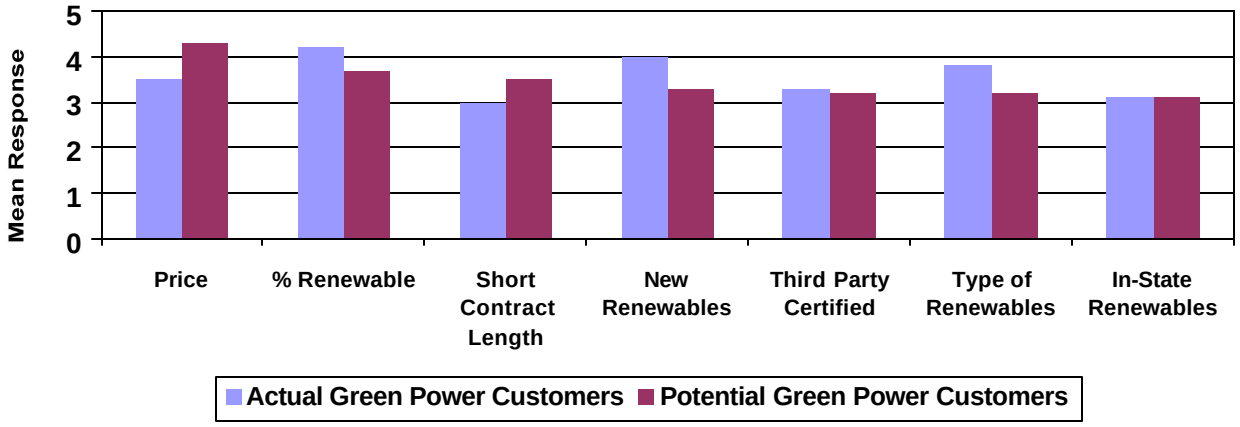


Figure 34. Product Selection Criteria, by Two Surveys



In terms of selecting a supplier, the actual green power buyers place much more importance on the supplier appearing to be socially responsible and genuinely committed

to the environment, while the potential green power buyers place the highest importance on the general reputation of the supplier and its financial soundness. With respect to product selection, actual green power buyers place the most importance on percent renewables, new renewables, and type of renewables, while the potential green power buyers emphasize the importance of price of the product. The implications are that potential customers appear to be less interested in the socially responsible aspects of suppliers and products, and more interested in price and short contract length. The actual green power customers are more altruistic and more committed to the environment than these potential customers who are supposed to have a predilection to purchase green power.

4.2.7 Maximizing the Value of Buying Green Power

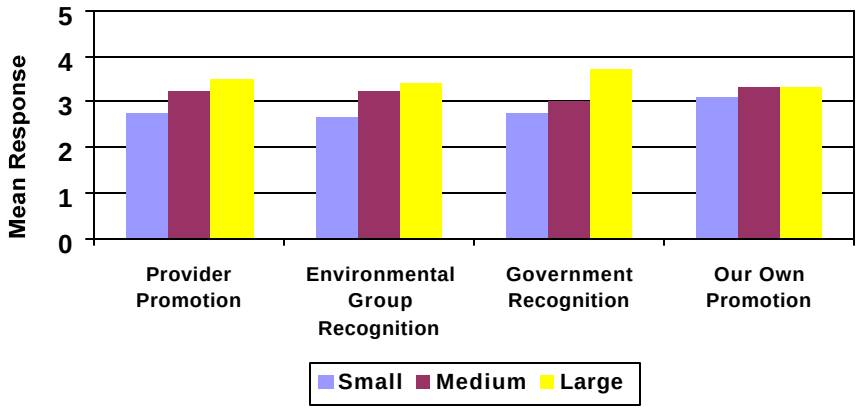
What could be offered to these potential customers to entice them into the group of actual green power buyers? The sample was asked, "If your organization were to purchase green power, how important would the following be to maximize the value of buying green power?" Respondents were asked to rate four options on a 5-point scale, where 1 = not important and 5 = very important.

As Table 22 shows, there is little to distinguish their responses overall. All four options were rated about the same, and there were no "other" answers written in. There are also no differences when comparing manufacturing/wholesale to retail/services, and no clear patterns when differentiating by the percent of green customers. When looked at by size of organization, however, there is a pattern that shows that the larger the customer, the more important each of these options is rated. This is probably the most significant lesson from the responses to this question. Within size categories, there are some different preferences, but they are not large. Figure 35 illustrates these differences.

Table 22. Maximizing the Value of Buying Green Power (mean response on 5-point scale)

Value Enhancement	Overall Response	Small	Medium	Large
• Marketing or promotion by our own organization	3.3	3.1	3.3	3.3
• Government award and recognition (local, state, or federal)	3.2	2.8	3.0	3.7
• Provider announcement and advertising	3.2	2.8	3.3	3.5
• Environmental group recognition or endorsement	3.2	2.7	3.3	3.4

Figure 35. How to Maximize the Value of Purchase, by Organization Size



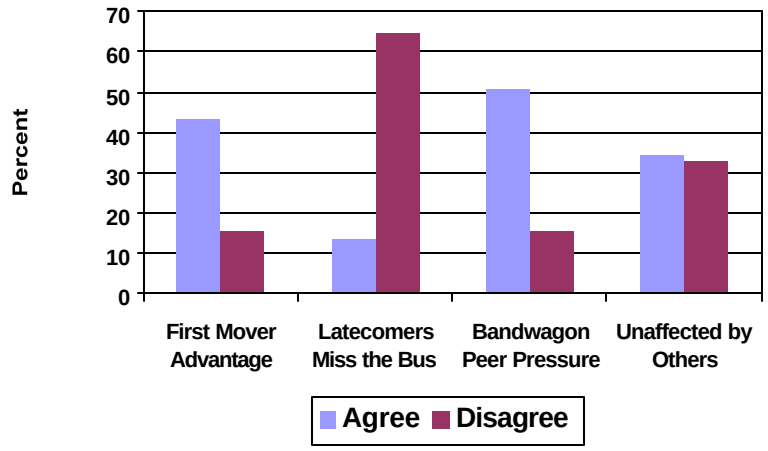
4.2.8 Bandwagon and First Mover Strategies

As discussed in Section 2, extracting material value from a green power purchase may depend on the actions of an organization's peers. Being among the first green purchasers might differentiate a firm and provide more public relations and marketing benefits relative to a later purchase (first mover advantage). On the other hand, but not necessarily in conflict, once a large fraction of companies in a particular industry have switched to green power, there may some pressure to get on the bandwagon to counter a possible public image backlash.

As in the survey of actual green power customers, respondents to this survey were asked to indicate their degree of agreement with a number of questions related to bandwagon and first mover incentives (5-point scale: 1 = definitely true, 5 = not at all true). Thirty-four percent of respondents agreed that their organization's purchase of green power would be unaffected by the activities of their peers (defined as a rating of 1 or 2 on the 5-point scale). A nearly equal percentage (33 percent) of respondents disagreed with this statement (defined as a rating of 4 or 5).

However, 43 percent of respondents agreed that being among the first to purchase green power is an effective way for a company to set itself apart (versus 15 percent that disagree), while 51 percent were in agreement that once a large number of their peers had purchased green power, it would become increasingly important for them to do so as well (versus 15 percent in disagreement). Conversely, the majority (65 percent) disagreed with the idea that once a large number of companies in an industry had purchased green power, it would become *less* worthwhile for late adopters to purchase green power. Figure 36 contrasts the percentages in agreement to those in disagreement with each position.

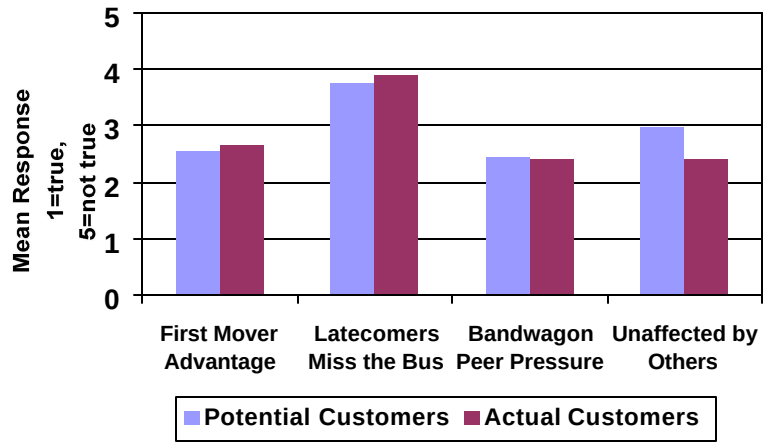
Figure 36. Attitudes towa rd Strategic Positioning



There are no significant patterns that emerge from analysis of the responses by business activity or percent of green customers. Large companies, however, tend to agree (more than smaller companies) that it less worthwhile for a late adopter to demonstrate its own commitment to the environment by a green power purchase (mean response of 3.6 for large, 3.8 for medium and 4.0 for small respondents). This suggests that it may be more difficult to convince larger customers of the public relations benefits as non-residential purchases of green power become more commonplace. Likewise, large companies disagree, more than their smaller counterparts, that it is increasingly important for them to get on the bandwagon after a large number of companies have done so (mean response of 2.7 for large, 2.7 for medium and 2.0 for small respondents).

Figure 37 compares the mean responses of this survey of potential customers to the mean responses of the survey of actual green power customers. Although we should be cautious with the small sample of potential customers, the results are very similar between the two samples.

Figure 37. Attitudes Toward Strategic Positioning, Two Surveys



4.2.9 Willingness to Pay for Green Power

With actual green power customers, it is possible to ask them how much they are paying for green power, but with potential customers, one must resort to hypothetical questions about how much they would be willing to pay. With residential customers, there is a big gap between stated willingness to pay for the extra cost of green power and actual behavior. This is likely true with non-residential customers as well.

Because of the likely gap between hypothetical willingness to pay and actual behavior, the absolute percent that say they would pay more for green power is less interesting than how potential customers respond to different price points and pricing messages. We therefore framed two questions a little differently, asking first how much green power they would be interested in purchasing "if you had to pay 10 percent extra per kWh."

Table 23 shows the results to this first question. Overall, 30 percent of respondents said their company would not be interested in buying any green power if it cost them 10 percent extra per kWh. The remaining 70 percent, however, thought they would be willing to pay 10 percent extra for some portion of their electricity use. Twenty-two percent said they would buy 10 percent of their electricity use as green power at the stated premium. Another 17 percent said they would buy 10 to 25 percent at a 10 percent premium. Only 3 percent thought their companies would be willing to pay 10 percent extra for 26 to 50 percent of their electricity use, but 27 percent thought their companies would do so for over 50 percent of their electricity use. Perhaps they felt the purchase had to be over 50 percent to be meaningful.

Table 23. Amount of Green Power Willing to Purchase at a 10% Premium

Amount	Overall	Manufacturing and Wholesale	Retail and Services
Not interested	30%	34%	24%
< 10% of electricity use	22%	25%	10%
10-25% of electricity use	17%	22%	14%
26-50% of electricity use	3%	0%	5%
> 50% of electricity use	27%	19%	48%

In this question of willingness to pay, differences between manufacturing/wholesale and retail/services became apparent. (For ease of description, we will simplify this to wholesale and retail.) One-third of wholesale customers were not interested in buying green power at all at this extra cost, while only one-quarter of retail customers were not interested. At the lower purchase percentages of zero to 25 percent, wholesale customers who felt they would participate exceeded retail customer percentages. In contrast, at higher levels of purchase, over 25 percent of electricity use and (especially) over 50 percent of use, retail customers that felt they would buy at a 10 percent premium far exceeded the percent of wholesale customers who would agree to this. These results suggest that retail companies have a higher predilection to buy green power. Wholesale

companies may need to be targeted more carefully, and appear to be inclined to purchase lower percentages of green power than retail companies.

Because of the small sample size, one must be careful not to place too much emphasis on smaller divisions, but some differences are apparent when looking at results from small, medium and large organizations and from companies that serve different percentages of green customers. Figure 38 shows how responses among small, medium, and large companies differed. Large organizations, like wholesale companies, preferred not to buy green power at a 10 percent premium, or if they did, they would be likely to do so at under 25 percent of their electricity use. Small companies, like retail companies, were inclined to purchase large percentages of their electricity use at a 10 percent premium. In this sample, over two-thirds of small companies said they would purchase green power for more than 25 percent of their electricity use. None of the small companies in this small sample were interested in green power at less than 25 percent of their energy use.

Figure 38. Amount of Green Power Willing to Purchase at a 10% Premium, by Organization Size

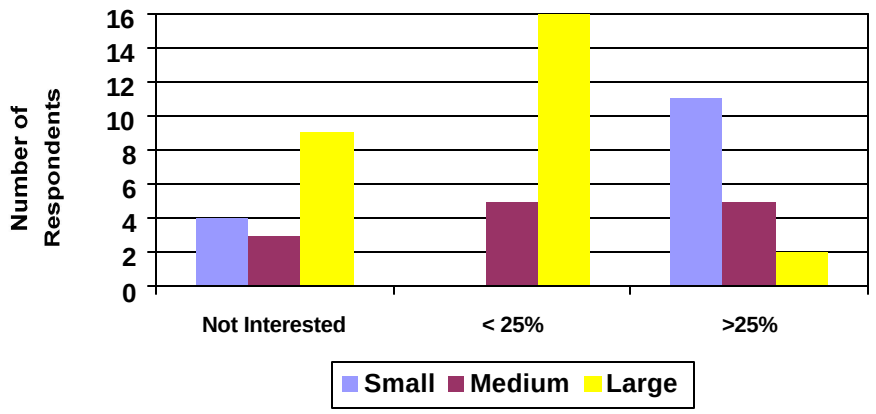
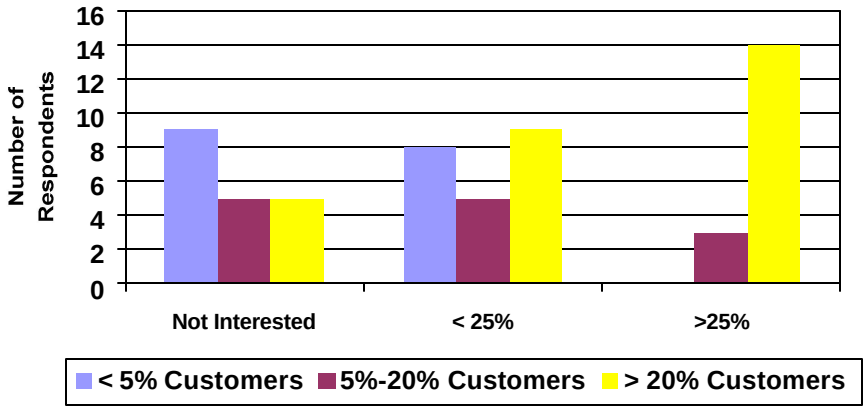


Figure 39 shows similar information broken out by perceived percent of green customers. Notable among these results is that over half of the respondents with less than 5 percent green customers would not be interested in buying green power at a 10 percent premium. At the other end of the spectrum, fully half of the respondents with more than 20 percent green customers said they would be willing to pay the green power premium for over 25 percent of their electricity use. (Although the figure does not show this detail, they say they would pay the premium for over 50 percent of their use). Essentially, if a company believes it has a lot of green customers, it also wants to buy more green power.

Figure 39. Amount of Green Power Willing to Purchase at a 10% Premium, by Percent of Green Customers



A second question was based on earlier suggestions (Kalweit and Peterson 1999) that non-residential customers find it easier to forgo a discount than to absorb a price increase. By combining a green power premium with savings from either energy efficiency or other costs savings resulting from restructuring of the electric industry, non-residential customers might be more willing to purchase green power. Respondents were therefore asked to rate how likely they would be to buy green power for 50 percent of their electric power needs, relative to what they now pay (5-point scale, 1 = very unlikely, 5 = very likely), under six scenarios. Results are summarized in Table 24.

Table 24. Willingness to Buy 50% Green Power Under Different Scenarios (mean response on 5-point scale)

Cost/Value Scenario	Overall Response	Percent Green Customers		
		<5%	5%-20%	>20%
• At a slightly discounted cost	4.7	4.9	4.2	4.8
• At a competitive cost	4.6	4.6	4.5	4.6
• At a higher cost that is completely offset by energy efficiency savings	3.6	3.0	3.6	3.9
• At a 10% higher cost if bundled with services like energy efficiency, special metering or consolidated billing	3.1	2.2	3.0	3.6
• At a higher cost that is partially offset by savings resulting from restructuring of the electric industry	2.9	2.5	2.9	3.1
• At a 10% higher cost	2.7	1.8	2.5	3.3

Overall, respondents profess a high likelihood of buying 50 percent green power if they can do so at a discount or at a competitive cost. It is notable that they would also be willing to do so at a higher cost if it is completely offset by energy efficiency savings.

The likelihood drops off if the savings are only partially offset by restructuring savings, or if they obtain other desired services without savings.

Table 24 offers further confirmation that the cost barrier is significant. Although respondents indicate an interest (mean of 3.6) in buying 50 percent green power at a higher cost if the extra cost is offset by energy efficiency savings, the decrease in interest from a competitive cost scenario (mean of 4.5) is still sizable. Apparently, energy efficiency helps to overcome the cost barrier but does not remove it. Respondents are astute enough to realize that they would be forgoing additional potential savings by pursuing this option—it is not really a free lunch.

Table 24 also shows differences among respondents who believe they sell to varying shares of customers who make an effort to "buy green." Although they too are most likely to buy 50 percent green power at a slightly discounted cost or at a competitive cost, for all the other scenarios respondents report an increasing likelihood to buy 50 percent green power as their green customer percentages increase.

Analyzing different groups of respondents does not reveal any particular trends, but a few data points are interesting. Large respondents, on average, show a slightly greater likelihood of buying 50 percent green power than their smaller counterparts, if it is available at a discount or a competitive cost. This suggests that large customers are still very interested in green power but are simply more price-sensitive. Also, the large respondents show less interest than smaller ones in buying 50 percent green power at a higher cost even if it is offset entirely by energy efficiency savings. Perhaps they did not fully accept the premise of the scenario--they may believe that they have already tapped most of their energy efficiency potential, or they may not be willing to give up any savings potential at all to pay for green power.

Finally, retail and services respondents report a much greater likelihood (3.5) of purchasing 50 percent green power at a 10 percent higher cost than manufacturing/wholesale respondents (2.2). Retail/services respondents also report a somewhat greater likelihood of purchasing green power at a higher cost that is completely offset by energy efficiency savings (3.9 vs. 3.4 for manufacturing/wholesale), and at a higher cost that is partially offset by restructuring savings (3.2 vs. 2.9).

4.2.10 Public Policy Preferences

This sample was also asked about their preferences on how to support renewable energy. The options posed were the system-benefits charge (all electricity consumers pay more for their electricity in order to raise funds to subsidize renewable energy projects), the renewables portfolio standard (all utilities and power suppliers are required to include a minimum percentage of renewable energy in their supply portfolios), additional taxes or regulations on pollution from electricity generation, and voluntary purchases of green power products.

Respondents were asked to register their opinion for each of these different ways to encourage renewable energy development on a 5-point scale (1 = do not support, 5 = strongly support). The RPS was the most supported of the options with a mean response of 3.8, followed by pollution taxes (3.5), voluntary consumer choice (3.4), and a system benefits charge (3.2). Table 25 shows the mean response overall, and compares manufacturing/wholesale responses to retail/services responses. Based on this sample, at least, the manufacturing/wholesale sector prefers reliance on voluntary consumer choice, while the retail/services sector strongly prefers policy options over a voluntary approach.

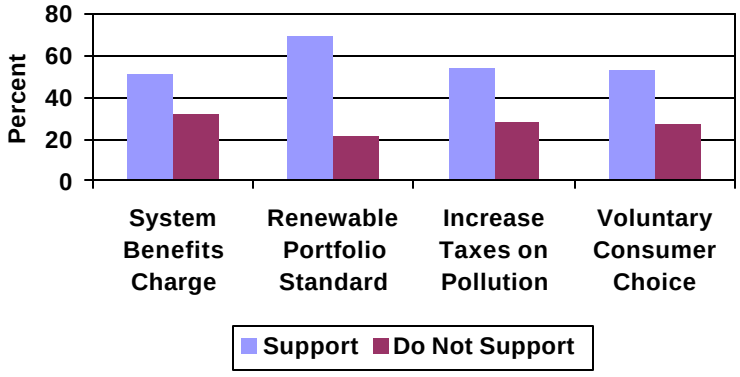
Table 25. Preferences for Renewable Energy Support (mean response on 5-pt scale)

Support Option	Overall Response	Manufacturing Wholesale	Retail Services
• All providers required to include a minimum percentage of renewables in supply portfolios	3.8	3.4	4.3
• Pollution from electricity generation should be taxed or further regulated	3.5	3.1	3.9
• Voluntary consumer choice	3.4	3.8	2.9
• All consumers pay more into a renewable fund	3.2	3.1	3.6

In addition, larger companies are less supportive of policy options in general than are smaller companies. In particular, large companies voice the least support for a system benefits charge (mean response 2.9), presumably because there is a direct and transparent link to increasing electricity costs. The more green customers companies think they sell to, the more they are likely to support the policy options. Companies serving more than 20 percent green customers rate a system benefits charge at 3.7, RPS at 3.9, pollution taxes or regulation at 3.8, and voluntary choice at 3.4.

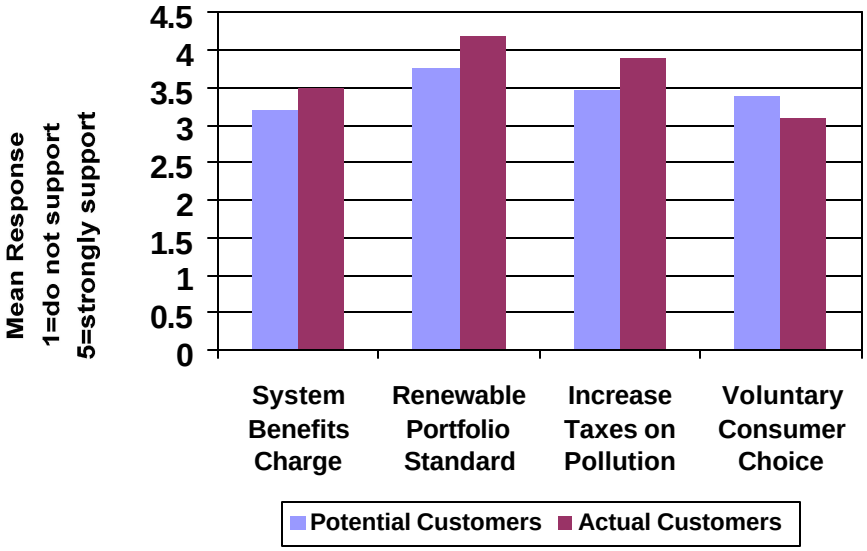
A key finding in this sample, however, is that majorities of the respondents supported all four approaches, as shown in Figure 40. Sixty-nine percent of respondents supported an RPS (defined as a rating of 4 or 5 on the 5-point scale), while 21 percent did not support it (defined as a rating of 1 or 2). Similarly, 54 percent supported pollution taxes or further regulations, 53 percent supported voluntary consumer choice, and 52 percent supported a system benefits charge. One respondent wrote, "The Federal Government should create tax incentives for companies that use renewable energy."

Figure 40. Preferences for Renewable Energy Support



Comparing the response from this sample to the responses from the sample of actual green power customers (Figure 41), it can be seen that those organizations already purchasing green power are more strongly supportive of all three policy options, and less supportive of voluntary consumer choice as a means to provide support to renewable energy development. The organizations already purchasing green power appear to be very motivated by the benefits of renewable energy, more so than the potential customers with a presumed inclination to support it. Again, because of the small size of the potential customers sample, these conclusions must be viewed with caution.

Figure 41. Comparison of Renewable Support Preferences, Two Surveys



4.3 Summary

The analysis of 65 responses to this survey of non-residential potential green power customers suggests that they have heard of green power but may not know much about it. They will need greater education about green power itself and about the potential environmental and public relations benefits to convince them to buy.

Motivations

It is clear that top management must be supportive of green power, both for large and small companies. For small companies however, the CEO or director is much more likely to be the champion, while for large companies the champion may be located in a variety of units within the organization, including environmental departments, facilities or energy management, marketing or public relations, and finance and accounting.

These potential customers are motivated by the altruistic factors of organizational values and civic responsibility, as well as by self-interest in their public image. The latter motivation is likely a result, in part, of the fact that most of the respondents are large

corporations and already in the public eye. Companies are interested in specific measures to provide them with positive public relations. Large companies in particular seem more interested in outside forms of promotion, while small companies may prefer to market themselves, if at all. The lesson for marketers is to work with their customers to tailor a PR effort consistent with the customer's needs. It may be desirable for federal or state government to develop a green power purchaser recognition program for large corporations.

Barriers

These companies view the extra cost of green power as a major barrier, followed by difficulty of the provider in meeting the customer's needs. Again, these priorities may be influenced by the size of these organizations, companies that use a lot of electricity and that may be more demanding of their current providers. The importance of cost is borne out by their stated willingness to buy green power at a discounted or competitive cost.

In spite of the cost barrier, 70 percent of respondents stated a willingness to pay 10 percent more for some portion of their electricity use. Of these, a plurality appears to feel that credibility demands that they buy green power for over 50 percent of their electricity use. This is good news for green power marketers if they can successfully address the cost issue. The respondents also expressed an interest in offsetting the extra cost with energy efficiency savings. The key may be to convince them that such savings still exist and have not already been captured.

Supplier and Product Selection

When selecting a supplier, this small sample places most importance on traditional factors including "financially sound," "good reputation", and "easy to work with." When selecting a green power product, they place the greatest importance on price, followed by percent renewables, and short contract length. It is not clear if their expressed attitudes reflect experience in choosing either a supplier or any type of electricity product, or whether it is based entirely on a hypothetical situation. In hindsight, it would have been useful to ask whether they have choice and have exercised it, or whether they continue to be served in a regulated market at this time. Generally, these customers seemed less interested in the public environmental benefits of the products. They need to be sold more on the private benefits that they can capture.

Market segmentation

Some differences are visible among these respondents based on size, business activity and percent of customers who try to buy green products. Smaller customers are more likely than large customers to buy green power, but large customers may be interested if providers can help generate public recognition or other private benefits. Retail and service firms are more likely to buy green power than manufacturing and wholesale firms that are more price sensitive. Finally, the higher the proportion of green customers that buy their products and services, the more willing these firms are to pay more for green power for a significant percentage of their electricity needs.

Strategy
This small sample is split equally over the effect of decisions by other companies to buy green power. One-third said they are unaffected by the decisions of their peers, while another one-third felt they would be affected by their peers' activities. But they do tend to agree that the first companies to buy green power have a greater chance of setting themselves apart and reaping the public relations benefits. This could be a selling point for marketers and utilities. Similarly, providers could use the argument that everyone else is doing it, because most of the respondents agreed that it becomes increasingly important for a late adopter to demonstrate its own commitment to the environment by purchasing green power.

Public Policy
Finally, this group did not strongly differentiate its support for policy options or voluntary consumer choice as a means to support renewable energy development. Majorities support all the options, which is good news for renewables. The renewable portfolio standard, however, received somewhat more support than the other options. The differences come out between subgroups. Retail/services (and small) companies are far more supportive of policy options than of voluntary choice, while manufacturing/wholesale (and large) companies are more supportive of choice than of policy options.

5 Conclusions

Three related research tasks were undertaken to try to understand non-residential customer motivations and barriers to buying green power. The first was a survey of customers who are already purchasing green power, the second was a series of interviews with a small number of green power customers, and the third was a survey of customers not buying green power but possibly environmentally-oriented.

Similarities

Considering all elements of the research, there are several points of similarity between the two groups of *actual* and *potential* customers:

- Both actual and potential green power customers are in general agreement that organizational values ("Our company feels a strong and pervasive commitment to public health and the environment") and civic responsibility ("We feel a responsibility to be community leaders, not just for the environment") are the most important motivators to the purchase of green power. This altruism is especially pronounced in small customers. Larger customer's attitudes are tempered by a greater appreciation of cost and a greater desire to capture private benefits.

- Both actual and potential green power customers rate their CEO, owner or director as the most likely internal advocate for a positive decision to purchase green power. This is intuitive for small companies, but is also surprisingly true for large organizations as well. Large organizations in both groups, however, also pointed out the importance of facilities or energy managers and environmental staff in championing green power.

- Both actual and potential green power customers agree that they can get more attention, and perhaps gain competitive advantage, from being among the first to buy green power in their market. Both groups also agree that if they are not an early adopter, it becomes increasingly important for them to buy green power if other companies in their industry or community are doing so.

- Both actual and potential green power customers support using public policy as well as voluntary consumer choice to support the development of renewable energy, indicating a belief that everyone should support shared public environmental benefits.

- Large customers in both groups tend to be more cost-sensitive, are more interested in polishing their public image, and are more supportive of voluntary choice as a means of supporting renewable energy, than their smaller counterparts.

- Selecting a local company as supplier is not very important to most respondents of both groups. Utility customers who have no choice but to receive service from a local company placed somewhat greater importance on this factor but still rated it below other selection criteria.

- Energy efficiency savings were not very important in justifying the purchase of green power. This was especially true for the actual customers, who gave it a mean rating of 2.5. It is possible that a bundled energy efficiency product was never presented as an option to them. Energy efficiency savings that completely offset the added cost of green power was more important to the potential customers (mean rating of 3.6), but they were still much less likely to purchase green power in this bundle than they were to buy green power at a competitive cost. This is consistent with the greater importance attached to price by the potential customers.

Differences

The two groups also exhibit a number of differences:

- Potential customers rate the barriers to purchasing green power much higher (more likely to complicate the decision-making process) than do the actual green power customers. The actual customers—who after all have been through the decision-making process—rate the barriers as very low. This raises the question of whether the potential customer perceptions are unfounded fears or whether the barriers are truly more significant than for those already buying green power. Acquiring the next set of non-residential customers in markets where they have already been targeted may require more hand-holding by providers than the early adopters did.

- Potential customers view public image and catering to the environmentally-conscious (catering to greens) as more important motivators than the altruists that are already buying green power. Are the actual green power customers down-playing their thirst for private benefits? A bare majority was satisfied with "the benefits that you anticipated," but 47 percent were either uncertain (34 percent) or not satisfied. And the large customers interviewed voiced content when asked about publicity, but most of them also said they did not get as much "early adopter" or "innovator" publicity as they thought they would.

- The two groups differed in terms of supplier selection criteria. The actual green power customers placed the greatest importance on "socially-responsible and genuinely committed to the environment" (rating it 4.4 on a 5-point scale), while that was fourth in importance (mean rating of 3.9) for the potential green power customers. Potential customers placed greater importance on general criteria (financially sound, good reputation as a supplier, and easy to work with) than did the actual customers.

- In terms of product selection criteria, potential customers rated price first in importance (mean rating of 4.3) while actual customers rated price fourth in importance (mean rating of 3.5). Actual customers gave much higher ratings to product characteristics of percent renewables, new renewables, and type of renewables than did the potential customers.

- Although both groups indicate support for renewable energy policy measures, actual green power customers support public policy measures more strongly than the small sample of potential green power customers. This stronger preference for policy support, relative to voluntary choice, probably reflects their strong commitment to the environment and a belief that everyone else should share the cost of public benefits.

We conceive three ways to explain the differences between the two groups, though there may be other explanations:

- The differences may stem from a lack of shared experience. Potential customers may not have had the opportunity to choose a different supplier than their utility, and they may not have been through the process of considering green power. The latter seems especially likely since most of the potential customers are not sure whether green power is available to them.

- The two samples differ in their composition. Of the actual green power customers, 58 percent are small and only 11 percent are large, versus 22 percent small and 47 percent large for the potential customers. Also, perhaps reflecting the size difference, 18 percent of the actual customers are involved in primary industry, manufacturing or wholesale trade, while 60 percent of the potential customers are so identified. The different responses between the two groups may be due to different demographic characteristics rather than to the fact that one group is purchasing green power and the other is not.

- Even if they were very similar in their descriptive characteristics, their attitudes may be truly different. Although the potential customers were selected because they are paying attention to environmental issues, even if they had a green power option available to them, they may be less inclined to consider it.

Increasing Non-Residential Demand for Green Power

While the foregoing sections report survey and interview findings and some possible interpretations of those findings, in this final section we depart from factual analysis and offer a perspective based on the research results. Here we suggest some possible steps that may be taken by utilities, marketers, and renewable energy advocates to encourage non-residential customers to purchase green power.

- **Market segmentation**. Different market segments, whether small, medium and large companies, or energy-intensive consumers and less intensive energy users, or public, non-profit and for profit organizations, have different interests and needs. Large customers, in particular, seem to exhibit stronger interest in lower prices and greater private benefits. Marketers should take these differences into account in targeting and approaching customers.

- **Environmental values**. The presence of strong environmental values within an organization appears to be a key factor in the decision whether or not to buy green power. Advance research, or business intelligence, can help identify those most likely to be receptive to a green power proposal.

- **The cost of green power**. Because the extra cost of green power appears to be a significant barrier to potential customers, marketers should work hard to address this issue. For example, providers could act early to secure the most cost-effective renewable resources, take advantage of restructuring savings early in new markets, and develop a credible energy efficiency service that can bundle cost savings with higher cost green power.

- **Customer education**. Respondents who are already buying green power perceive potential barriers to be much lower than customers who have not yet gone through that decision-making process. Although these different perceptions may stem from fundamental differences between the two groups, they may also be due to a lack of information and experience by the latter group. Marketers and third-party advocates should help educate potential customers about the choices, the costs, and the benefits.

- **Public relations benefits**. Because large customers generally seek public recognition, and some that have purchased green power reported receiving less benefit than they hoped for, marketers and advocates should put more effort into promotion of the customer and its green power purchase. Since both the provider and the customer have opportunities to give visibility to the purchase decision, they should work in partnership. The provider might offer a menu of options to stimulate creative thinking, and the customer might think about opportunities unique to its business to maximize public relations value and private benefits.

- **Civic responsibility**. Respondents rated this factor as very important in their decision to purchase green power. Marketers should emphasize the leadership role customers can play in their community, and may want to appeal to the customer's ability to influence others to buy green power.

- **Employee morale benefits**. Respondents viewed employee morale as an important motivator to purchasing green power. Employees like to feel good about where they work and to know that their employer is doing its bit to address environmental problems. Marketers should encourage the customer to educate its employees about green power, and if appropriate, to support an employee sign-up program.

- **First mover advantage**. Being the first provider in a market to sell green power may give the green power supplier an advantage and also provide similar first mover advantage to the customer, in terms of greater recognition. In addition, early entry in a market may provide more opportunity to take advantage of savings from restructuring.

- **Bandwagon effect**. Respondents tend to agree that once a large number of companies in an industry or a community have purchased green power, it becomes increasingly important for others to jump on the bandwagon. Marketers should make sure that potential customers are aware that other organizations are already buying green power.

- **Internal champions**. It may be easy to identify an internal green power champion in the case of a small business, where it is very likely to be the owner, but in large organizations, internal advocates can come from a variety of departments. Providers or third party advocates should be prepared to talk to multiple influencers and be willing to support a potentially lengthy decision-making process.

- **Public policy**. Based on these surveys, respondents are supportive of public policies favoring renewable energy development, as well as voluntary customer choice of green power. Marketers and renewable energy advocates may want to continue to encourage such policies, while ensuring that rules for newly competitive markets encourage switching and green power choice options.

Although these samples of respondents and interviewees are not randomly selected and therefore are not representative of all non-residential customers, they do provide insights into the motivations and barriers perceived by two important groups, those that are already purchasing green power and those that might be inclined to do so. Taking guidance from them will lead to more successful green power sales efforts and stronger support for the development of renewable energy markets.

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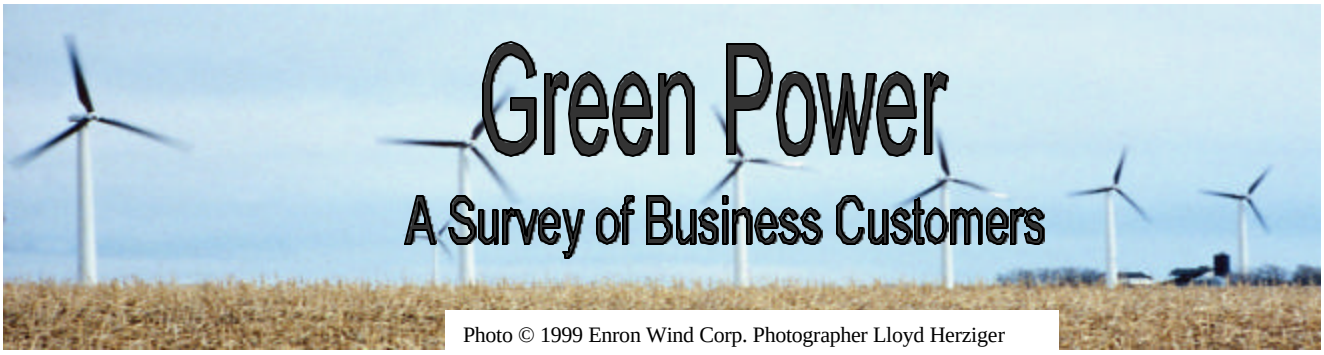


Photo © 1999 Enron Wind Corp. Photographer Lloyd Herziger

Section 1: Purchasing Green Power

To begin, we would like to ask you about your organization's experience with purchasing a green power product.

Q1. Please indicate how your organization got started with green power.
(Please check appropriate box).

- ❑ Our organization was first approached by a green power marketer.
- ❑ Our organization first approached a green power marketer.
- ❑ Our organization was first approached by a third party, e.g., a community or environmental group, to purchase green power.

Q2. Please indicate how you selected a green power product.
(Check appropriate box).

- ❑ Our organization issued a request for proposals.
- ❑ Our organization negotiated with one or several green power marketers on price and/or resource content terms.
- ❑ Our organization selected an off-the-shelf green product offered by a green power marketer and did not negotiate on price and/or resource content terms.
- ❑ Other _____

Q3. Please indicate how important the following criteria were in your organization's selection of a green power provider (as opposed to an individual product).

	Not Important				**Very Important**
Supplier has a good reputation as an electricity provider.	1	2	3	4	5
Supplier appears financially sound.....	1	2	3	4	5
Supplier is a local company.....	1	2	3	4	5

Supplier is easy to work with and understands our needs	1	2	3	4	5
Supplier appears to be socially responsible and genuinely committed to the environment.....	1	2	3	4	5

Other: *(please specify)* _____

Q4. How important were the following criteria in your organization's decision to purchase a particular green power *product*. *(Please circle your responses)*

	Not Important				**Very Important**
Price.....	1	2	3	4	5
Short contract or commitment length.....	1	2	3	4	5
Percent of electricity generated using renewable sources.....	1	2	3	4	5
Type of renewables (wind, biomass, geothermal, solar, etc.).....	1	2	3	4	5
Your money will go towards constructing new renewable generation rather than towards the operation of existing facilities.	1	2	3	4	5
Renewable generation located in-state rather than out-of-state...	1	2	3	4	5
Green product officially certified by a third party or endorsed by an environmental organization.....	1	2	3	4	5

Other: *(please specify)* _____

Q5. How long did your purchase decision take from your first contact with a green power marketer or third party advocate, to when you actually signed up for green power?

❑ a few days ❑ less than a month ❑ months *(write in how many)*

Q6. What is your organization's approximate total expenditure on electricity per year?

$_____/year

Q7. Is green power costing you more, less, or about the same as other available options?

❑ costs more ❑ costs less ❑ costs about the same

Q8. If green power is costing you more (or less), how much more (or less)?

$_____/month or $_____/year

Q9. To what extent did energy efficiency savings or other electricity price reductions help you justify purchasing green power? *(Please circle your response)*

Not important				**Very important**
1	2	3	4	5

Q10. What unit within your organization was the champion for getting your green power contract signed and implemented?

❑ our environmental department
❑ our marketing or public relations department
❑ our CEO, owner or director
❑ our facilities/energy/procurement department
❑ our parent company
❑ our finance or accounting department
❑ other *(please specify)* _____

Q11. To what extent did the following potential factors complicate your organization's green power purchasing process? *(please circle your responses).*

	Not at all Problematic				**Very Problematic**
Green Power Provider(s) had difficulty meeting our needs or was otherwise difficult to work with.....	1	2	3	4	5
State Regulations were a barrier.....	1	2	3	4	5
Fear of Increased Scrutiny by environmental groups...	1	2	3	4	5
Internal Resistance by key decision-makers.....	1	2	3	4	5
The Extra Cost of green power was a serious hurdle....	1	2	3	4	5
Incomplete Information made it difficult to determine the true environmental benefits of green power.....	1	2	3	4	5

Other *(please specify)*_____

Section 2: Why Green Power?

Q12. How important were the following considerations in influencing your organization's decision to purchase green power? *(please circle your responses).*

	Not Important				Very Important
Lowest Cost: Green power is our cheapest electricity option	1	2	3	4	5
Public Image of Our Organization: Maintaining a "Green" public image is important to us	1	2	3	4	5
Catering to the Environmentally-Conscious: It is important that we accommodate the needs and concerns of our customers, shareholders or constituents	1	2	3	4	5
Organizational Values: Our organization feels a strong and pervasive commitment to public health and the environment	1	2	3	4	5
Civic Responsibility: We feel a responsibility to be community leaders, not just for the environment	1	2	3	4	5
Employee Morale: Employees feel more pride in an organization that is giving back to the environment	1	2	3	4	5
Reduced Risk of Future Regulation: Our voluntary actions in support of renewable energy reduce the need for future government intervention and regulation	1	2	3	4	5

Other *(please specify)*_____

Q13. Please indicate the extent to which you believe the following statements about an organization's ability to generate marketing and public relations value from a green power purchase are true. *(Please circle your responses).*

	Definitely True		Somewhat True		Not at all True
Being among the first in our industry or community to purchase green power is an effective way for a company to set itself apart.....	1	2	3	4	5
Once a large number of companies in an industry or community have done so, it becomes *less worthwhile* for a late adopter to demonstrate its own commitment to the environment by purchasing green power	1	2	3	4	5

Once a large number of companies in an industry or community have done so, it becomes *increasingly important* for a late adopter to demonstrate its own commitment to the environment by purchasing green power.....	1	2	3	4	5
Whether or not our company purchases green power is entirely unaffected by the activities of other companies in the industry or community.....	1	2	3	4	5

Q14. What percentage of your product or service sales are to customers whom you believe make a concerted effort to buy green products and services?

❑ less than 1% ❑ 5%-10% ❑ 20%-50%
❑ 1%-5% ❑ 10%-20% ❑ over 50%

Section 3: Green Value

Q15. Has your organization engaged in any of the following activities to get the word out about its green power purchase?

	Yes, we have done this	We're planning to do this	No plans to do this
Efforts have been made within our organization to educate employees about green energy.....	❑	❑	❑
We have developed point-of-sale marketing or public education material to get the word out to our customers/constituents about our commitment.....	❑	❑	❑
Our organization has issued press releases announcing our green power purchase.....	❑	❑	❑
We have highlighted our green power purchase in our reports to shareholders, members or funding sources...	❑	❑	❑

Other *(please specify)*_____

Q16. Prior to restructuring of the electricity industry, most renewable electricity generation was supported through state and federal programs and policies. Recently, more emphasis is being placed on markets and customer choice. How do you think renewables development should be encouraged? Please indicate your support for the following options.

Do Not Support **Strongly Support**

All electricity consumers should pay a little more for their electricity in order to raise funds to finance renewable energy projects	1	2	3	4	5
All utilities and/or power suppliers should be required to include a minimum percentage of renewable energy in their supply portfolios.....	1	2	3	4	5
Pollution from electricity generation should be taxed or further regulated	1	2	3	4	5
Support for renewables should come from voluntary consumer choice....	1	2	3	4	5

Other *(Please specify)*_____

_____

Q17. In the event that government required all electricity marketers to include a minimum percentage of renewable energy in their supply portfolios, would your organization be more inclined or less inclined to buy additional green power beyond the government requirement?

Less inclined **More inclined**

1 2 3 4 5

Section 4: More About You

Q18. How would you classify your organization?

❑ For-Profit Company ❑ Private Non-Profit *(skip to Q21)* ❑ Public Sector *(skip to Q21)*

Q19. As a For-Profit Company, are you primarily involved in:

❑ Primary Industry/Manufacturing/Wholesale Trade ❑ Retail/Services

Q20. As a For-Profit Company, are you:

❑ Publicly Held and Traded ❑ Privately-Owned

Q21. Into which of the following gross annual revenues or annual budget categories does your organization fall?

❑ less than $500,000 ❑ $2 m to $10 million ❑ $100 million to $1 billion
❑ $500,000 to $2 million ❑ $10 m to $100 million ❑ more than $1 billion

Q22. Overall, to what extent has your green power purchase provided the benefits that you anticipated?

Not at All				**Completely**
1	2	3	4	5

Q23. When your current green power contract (if any) or commitment term ends, how likely is it that your organization will renew its green power purchase?

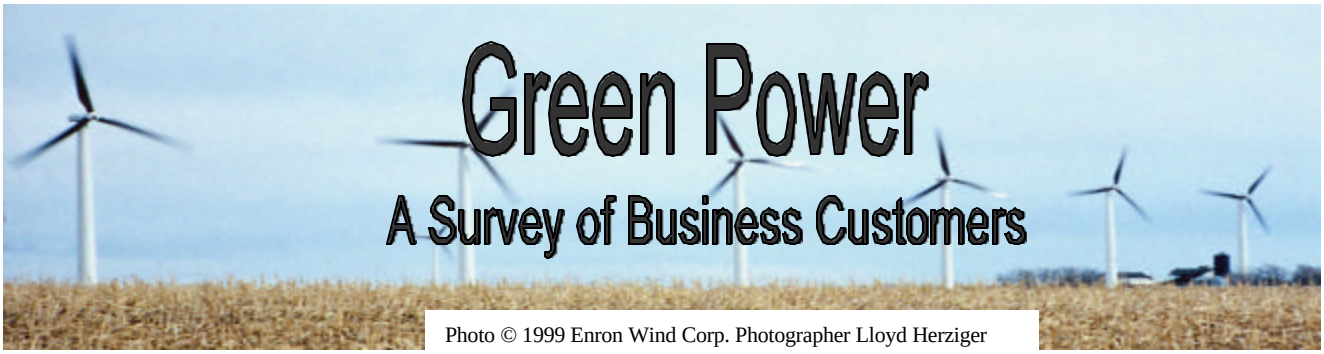
Not Very Likely				**Very Likely**
1	2	3	4	5

Finally: If you would like to receive a copy of the paper reporting the results of this survey, please provide your name and contact information below. Or you may check the Website at nationalwind.org in July or August to view a copy.

Organization Name_____
Contact Name_____
Address_____**City**_____ **State**____ **Zip**_____

Please feel free to include any other comments you might have in the space below.

Thank you for your cooperation!



Green Power: What is it?

Green Power generally refers to electricity supplied from renewable energy sources such as wind, solar, hydro, biomass and geothermal power. The essential feature is that green power offers environmental benefits by reducing impacts on air quality. Nearly one-third of all U.S. consumers currently have the option to voluntarily purchase green power, either from their regulated utility or from competitive green power marketers in restructured electricity markets in California, Pennsylvania, and other states. As competition spreads in the electric power industry, and more utilities see value in green power, more consumers will have this choice.

Is your organization currently purchasing green power from a utility or green power marketer?

Yes, we are purchasing green power.*
We are in the process of negotiating with a green power provider.*

No, we are not purchasing green power.

**If you chose either of these options, please stop here and return your survey in the business reply envelope without completing any more questions. Thank you for your participation!*

Q1. Have you previously heard of green power being offered as a differentiated product to homes and businesses anywhere?

❑ Yes ❑ No

Q2. Is a green power option currently available to your company at one or more of your locations?

❑ Yes ❑ No *(skip to Q4)* ❑ Don't Know *(skip to Q4)*

Q3. To what extent have you considered the purchase of green power? *(check one)*

- ❑ We haven't pursued it at all.
- ❑ We investigated the purchase of green power but decided against it at this time.
- ❑ We entered negotiations to buy green power but these ultimately fell through.
- ❑ Other: _____

Motivations and Barriers

Q4. To what extent do the following groups influence your organization's decisions to buy environmentally-responsible products? *(please circle your responses)*

	Not influential				Very Influential
Top management of your company	1	2	3	4	5
Employees of your company	1	2	3	4	5
Environmental regulators	1	2	3	4	5
Environmental advocacy organizations	1	2	3	4	5
Customers	1	2	3	4	5
Suppliers of goods and services	1	2	3	4	5
Shareholders	1	2	3	4	5
Board of directors	1	2	3	4	5
Communities in which you are located	1	2	3	4	5

Other *(please specify)* _____

Q5. If your organization were to purchase green power, how important do you think the following considerations would be in influencing your company's decision to buy green power? *(please circle your responses)*

	Not Important				Very Important
Public Image of Our Organization: Maintaining a "Green" public image is important to us	1	2	3	4	5
Catering to the Environmentally-Conscious: It is important that we accommodate the needs and concerns of our customers, shareholders or constituents	1	2	3	4	5
Organizational Values: Our company feels a strong and pervasive commitment to public health and the environment	1	2	3	4	5
Civic Responsibility: We feel a responsibility to be community leaders, not just for the environment	1	2	3	4	5
Employee Morale: Employees feel more pride in a company that is giving back to the environment	1	2	3	4	5

Reduced Risk of Future Regulation: Our voluntary actions in support of renewable energy reduce the need for future government intervention and regulation	1	2	3	4	5

Other *(please specify)* _____

Q6. If your organization were considering a green power purchase, how likely are the following factors to complicate your decision-making process? *(please circle your responses)*

	Not likely to complicate				**Very likely to Complicate**
The Extra Cost of green power	1	2	3	4	5
Internal Resistance by key decision-makers	1	2	3	4	5
Incomplete Information about the true environmental benefits of green power	1	2	3	4	5
Increased Scrutiny by environmental groups	1	2	3	4	5
Utility or Service Provider difficulty in meeting our needs or otherwise being difficult to work with	1	2	3	4	5
State Regulatory barriers	1	2	3	4	5

Other *(please specify)* _____

Q7. If your organization were to consider purchasing a green power product, how important would the following criteria be to your decision making process? *(Please circle your responses)*

	Not Important				**Very Important**
Price	1	2	3	4	5
Short contract or commitment length	1	2	3	4	5
Percent of electricity generated using renewable sources	1	2	3	4	5
Type of renewables (wind, biomass, geothermal, solar, etc.)	1	2	3	4	5
Your money will go towards constructing new renewable generation rather than towards the operation of existing facilities	1	2	3	4	5
Renewable generation located in-state rather than out-of-state	1	2	3	4	5
Green product officially certified by a third party or endorsed by an environmental organization	1	2	3	4	5

Other *(please specify)* _____

Q8. If your market were open to retail competition, how important do you think the following criteria would be in your organization's selection of a green power provider? *(Please circle your responses)*

Not Important **Very Important**

Supplier (utility or service provider) has a good reputation as an electricity provider	1	2	3	4	5
Supplier appears financially sound	1	2	3	4	5
Supplier is a local company	1	2	3	4	5
Supplier is easy to work with and understands our needs	1	2	3	4	5
Supplier appears to be socially responsible and genuinely committed to the environment	1	2	3	4	5

Other: *(please specify)* _____

Q9. Please indicate the extent to which you believe the following statements about an organization's ability to generate marketing and public relations value from a green power purchase are true. *(Please circle your responses).*

	Definitely True		**Somewhat True**		**Not at all True**
Being among the first in our industry or community to purchase green power is an effective way for a company to set itself apart	1	2	3	4	5
Once a large number of companies in an industry or community have done so, it becomes *less worthwhile* for a late adopter to demonstrate its own commitment to the environment by purchasing green power	1	2	3	4	5
Once a large number of companies in an industry or community have done so, it becomes *increasingly important* for a late adopter to demonstrate its own commitment to the environment by purchasing green power	1	2	3	4	5
Whether or not our company purchases green power is entirely unaffected by the activities of other companies in the industry or community	1	2	3	4	5

Q10. If your organization were to purchase green power, how important would the following be to maximize the value of buying green power?

	Not important			**Very important**	
Utility or green power supplier announcement and advertising	1	2	3	4	5
Environmental group recognition or endorsement	1	2	3	4	5
Government award and recognition at the local, state or federal level	1	2	3	4	5
Marketing or promotion by our own organization	1	2	3	4	5

Other: *(please specify)* _____

Q11. Prior to restructuring of the electricity industry, most renewable electricity generation was supported through state and federal programs and policies. Recently, more emphasis is being placed on markets and customer choice. How do you think renewables development should be encouraged? Please indicate your support for the following options.

	Do Not Support				**Strongly Support**
All electricity consumers should pay a little more for their electricity in order to raise funds to finance renewable energy projects	1	2	3	4	5
All utilities and/or power suppliers should be required to include a minimum percentage of renewable energy in their supply portfolios	1	2	3	4	5
Pollution from electricity generation should be taxed or further regulated	1	2	3	4	5
Support for renewables should come from voluntary consumer choice	1	2	3	4	5

Other *(Please specify)*_____

Q12. If you had to pay 10% extra per kWh for green power, how much green power do you think your company would be interested in buying? *(please check one)*

❏ We would not be interested in buying green power

❏ Less than 10% of our electricity use ❏ 10-25% of our electricity use

❏ 6-50% of our electricity use ❏ Over 50% of our electricity use

Q13. If your company could buy green power for 50% of its electric power needs, either now or in the future, how likely would it be to do so at the following costs relative to what you now pay:

	Very Unlikely				**Very Likely**
At a slightly discounted cost?	1	2	3	4	5
At a competitive cost?	1	2	3	4	5
At a 10% higher cost?	1	2	3	4	5
At a 10% higher cost if bundled with services like energy efficiency, special metering or consolidated billing?	1	2	3	4	5
At a higher cost that is completely offset by energy efficiency savings?	1	2	3	4	5
At a higher cost that is partially offset by savings resulting from restructuring of the electric industry?	1	2	3	4	5

Other *(please specify)* _____

Section 3: Decision-Making

Q14. What unit within your company is the most likely to be the primary advocate for getting a green power contract signed and implemented?

❑ our environmental department
❑ our marketing or public relations department
❑ our CEO, owner or director
❑ our facilities/energy/procurement department
❑ our parent company
❑ our finance or accounting department
❑ other *(please specify)* _____

Section 4: More About You

Q15. How would you classify your organization?

❑ For-Profit Company
❑ Private Non-Profit *(skip to Q18)*
❑ Public Sector *(skip to Q18)*

Q16. As a For-Profit Company, are you primarily involved in:

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Q17. As a For-Profit Company, are you:

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❑ Privately-Owned

Q18. What percentage of your product or service sales are to customers whom you believe make a concerted effort to "buy green"?

❑ less than 1%
❑ 5%-10%
❑ 20%-50%
❑ 1%-5%
❑ 10%-20%
❑ over 50%

Q19. Into which of the following gross annual revenues (or annual budget, if non-profit) does your company fall?

❑ less than $500,000
❑ $2 m to $10 million
❑ $100 m to $1 billion
❑ $500,000 to $2 million
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❑ more than $1 billion

Finally: If you would like to receive a copy of the paper reporting the results of this survey, please provide your name and contact information below. Or you may check the Website at nationalwind.org in about September to view a copy.

Organization Name_____
Contact Name_____
Address_____**City**_____ **State**____ **Zip**_____

Please feel free to include any other comments you might have in the space below.

Thank you for your cooperation!

NWCC Members include representatives from:

Alliance of Energy Suppliers
American Electric Power
American Wind Energy Association
Atlantic Renewable Energy Corporation
Bonneville Power Administration
California Energy Commission
City of Lake Benton
Competitive Utility Strategies
CSGServices Inc.
EAPC Architects Engineers
Ed Holt & Associates, Inc.
Electric Power Research Institute
Electrotek Concepts Inc.
Enron Wind Corporation
Environmental and Energy Study Institute
FPL Energy, Inc.
FPL-OSI-GRS-Altamont Infrastructure Co.
Greenmountain.com
Inter-Tribal Council On Utility Policy
Iowa Department of Natural Resources
Kansas House of Representatives
Land & Water Fund of the Rockies
Lincoln County Enterprise Development Corporation
Midwest Renewable Energy Corporation
Minnesota Environmental Quality Board, MN Planning
Montana Public Service Commission
National Association of Regulatory Utility Commissioners
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Renewable Energy Consulting Services, Inc.
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U.S. Department of Energy Wind Energy Program
Union of Concerned Scientists
US Department of Energy Wind Energy Program
Utility Wind Interest Group, Inc.
Vermont Department of Public Service
Vermont Environmental Research Associates, Inc.
Western Resources
Windustry
Wyoming Business Council, Energy Office
Wyoming Public Service Commission
Xcel Energy, Inc.

A U.S. consensus-based collaborative formed in 1994, the **National Wind Coordinating Committee (NWCC)** identifies issues that affect the use of wind power, establishes dialogue among key stakeholders, and catalyzes activities to support the development of an environmentally, economically, and politically sustainable commercial market for wind power. **NWCC** members include representatives from electric utilities and support organizations, wind developers and equipment suppliers and support organizations, environmental organizations, state legislatures, state utility commissions, consumer advocacy offices, green power marketers, local, state, tribal, and federal agencies, and agriculture and economic development organizations.

For additional information about the National Wind Coordinating Committee, please contact:

Senior Outreach Coordinator
National Wind Coordinating Committee
c/o RESOLVE
1255 23rd Street, Suite 275
Washington, DC 20037

Phone: 202-965-6398 or 888-764-WIND
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This complete document is available on NWCC's website: www.nationalwind.org