

# Public goods and private interests: understanding non-residential demand for green power

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## Abstract

This article presents the results of the first large-scale mail survey of *non-residential* green power customers in the United States. The survey explored the motivations, attitudes, and experiences of 464 business, non-profit, and public-sector customers that have voluntarily opted to purchase—and frequently pay a premium for—renewable electricity. Particular attention in this article is paid to the motivations of these organizations in purchasing renewable electricity, and our findings are compared to the extant literature on the motivations of firms to voluntarily exceed environmental regulations. Perhaps the most interesting contribution of this research comes in its demonstration of the importance of “altruism” as a motivator in non-residential green power purchases among early adopters. This finding, and the further discovery that the principal non-altruistic motivation for purchasing green power is employee morale, differs substantially from the predictions of the extant literature. Results of this study should be of value to marketers trying to meet the needs of non-residential customers, to policymakers interested in fostering and understanding non-residential demand for green power, and to academics pondering the motivations for firms to engage in such voluntary environmental initiatives. © 2001 Elsevier Science Ltd. All rights reserved.

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## 1. Introduction

### 1.1. Green power markets

The introduction of customer choice in electricity markets worldwide brings with it the possibility of a green power market in which end-use customers volunteer to pay a premium for the supply of renewable electricity.<sup>1</sup> With only a couple years of evidence to rely upon, experience with green power marketing is limited. Green marketing activity continues to grow in the

United States, Europe, and Australia. But, while niche markets for green power clearly exist, few programs have exceeded 5% penetration in the residential market. In the U.S., for example, as of mid-2000, 40% of households had access to one or more green power products. With approximately 360,000 customers purchasing green power, an overall penetration rate of just under 1% has been achieved (Wiser et al., 2000).

Some analysts have argued that the relatively slow rate of green power uptake should come as no surprise. The high cost of marketing, unfavorable regulatory rules, the intangible nature of green power, and the prevailing lack of consumer awareness of the environmental impacts of energy production are frequently identified as barriers to adoption. Perhaps the most significant limitation to the long term success of the green market, however, is the contention that individual consumers act to maximize their own well being rather than the well being of society when making product choices. After all, when public environmental benefits are involved, the familiar economic concept of free riding would be expected to limit voluntary

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<sup>1</sup>In the United States, green power is offered to customers by regulated utilities and—in those markets open to retail competition—by competitive green marketers. Over 70 regulated utility programs are now offered in U.S., within which utility ratepayers are given the opportunity to pay more on their electricity bills to support renewable energy. Meanwhile, in the markets open to retail competition, a number of competitive marketers offer a range of renewable energy products, typically sold at a premium.

contributions for the betterment of the public good. If, in fact, this neoclassical-economic rationality prevails over the decision making of electricity consumers, it would appear that the green market's potential will be severely limited (Rader and Short, 1998; Wiser, 1998).

More optimistic observers contend that green power marketing may offer a significant opportunity for renewable energy in the long term (Nakarado, 1996). After all, there is empirical evidence in other markets that suggests that consumers do not always act in their own narrow self-interest. Instead, consumers are sometimes willing to voluntarily contribute towards public environmental benefits through their own behaviors (e.g., recycling) or purchases (e.g., green consumer products). Experimental evidence also shows that individuals frequently contribute more towards public goods than predicted by traditional economic models (Andreoni, 1995).

For the most part, consideration of such non-economic motivations has focused on residential households, hence motivating the current focus of many green marketers on the residential marketplace. A standard presumption of neoclassical economics is that businesses make purchase decisions based purely on economic gains and are unlikely purchasers of green power and the public environmental benefits that accrue with such purchases.

Notwithstanding these claims, however, an interest in non-residential green power sales has emerged. Limited market research shows that up to 60% of businesses indicate a willingness to pay more for green power (Farhar, 1999; Farhar and Houston, 1996; Hoefgen, 1999). More persuasively, where green power programs have targeted non-residential customers, those customers have often constituted over 20% of total green power sales (Wiser et al., 2000). Some therefore believe that non-residential purchasers of green power could conceivably make substantial contributions to overall green power demand.

### 1.2. Research objectives

The principle purpose of this study is to explore the non-residential market for green power, which encompasses business, public sector, and non-profit organizations. Though numerous studies have investigated the green power preferences and motivations of residential customers, publicly available research focusing on the non-residential market is limited (see, e.g., Holt, 1997; Kalweit and Peterson, 1999). To build and expand upon existing work, and to deeply explore customer motivations, we chose to implement the first large-sample mail survey of current non-residential green power customers in the United States: 464 such customers were surveyed through the work reported here.

While the survey queried customers about a range of issues associated with their green power purchase, in this article we focus almost exclusively on those results that relate to customer motivations in purchasing—and typically paying more for—renewable electricity. Our interest in customer motivations derives from both theoretical and practical considerations:

- From a theoretical perspective, we wish to add to an emerging strand of empirical and theoretical literature that asks why a firm—presumably driven by profit motivations—would choose to exceed environmental regulations and engage voluntarily in corporate environmentalism. Insofar as non-residential customers are volunteering to pay extra for their electricity in order to lend financial support to renewable energy generation, the purchase of a green power product is similar to other voluntary environmental initiatives in which a firm might engage. Accordingly, this paper uses the purchase of green power as a case study for those interested in broader issues of corporate environmentalism and voluntary over-compliance with environmental regulation.
- From a more practical perspective, we also believe that understanding the motivations underlying non-residential purchases of green power will be of critical use to policymakers interested in fostering and understanding non-residential demand for green power, and to purveyors of green power trying to increase and sustain demand for their product among non-residential customers. Finally, an understanding of customer motivations sheds light on the future size and scope of this voluntary approach to supporting renewable generation.

### 1.3. Organization of paper

The next section of this article provides a brief survey of the relevant academic literature on organizational motivations to engage in voluntary environmental initiatives. The section that follows reports on the survey methods used in this study and the limitations of the methods selected. The subsequent section briefly profiles respondents to the survey. The discussion and analysis then turns to the motivations of customers in purchasing green power. Related empirical results are presented that offer further insights into the motivations of survey respondents. The article closes with brief summary remarks and a discussion of the possible role of non-residential customer demand in supporting renewable electricity.

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