Green Power in Perspective

Lessons from the Marketing of Consumer Goods

December 1997
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Acknowledgments

The author wishes to thank Dan York of ECW, Nancy Rader, Andrew Stoeckle of Abt Associates, and Julie Lynch and Eun-sook Goidel of EPA for their insight.
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As the electricity business moves closer to competition, many marketers are interested in selling cleaner, greener power to customers who want it. A number of utilities in Wisconsin and elsewhere are already offering environmentally-friendly energy at special “green” rates. But as controversies around green pricing and retail pilots suggest, green-power marketing is not without pitfalls. This report examines the issues by drawing from the environmental marketing of other consumer goods. In the early 1990s, green consumerism moved into the mainstream, and claims like “ozone friendly” and “biodegradable” proliferated. Misleading claims led to lawsuits, regulation, and the introduction of environmental seals of approval. Many of the same issues have arisen in the energy field. Based on past experiences with consumer goods, marketers will need to know what constitutes a legitimate green power product, what to expect from green marketing, who green consumers are, how to communicate with them (and how not to), and whether third-party certification is helpful. Regulators can look to the history of green marketing for guidance on ensuring truthful claims and how green marketing fits with other public policy options. Experience with “ecolabeling” shows the importance of disclosure labeling and how an energy seal of approval can succeed or fail. Finally this report discusses how both marketers and regulators will need to give careful consideration to green product definitions, the dangers of misinterpreting surveys, and how to interpret retail pilots.
Introduction

As a competitive market for energy and energy services approaches, there has been much discussion of marketing based on the environmental attributes of energy products. Marketers are interested in green marketing because it provides an effective way to differentiate products and polls suggest a strong demand for green power. For regulators and public interest groups, green marketing offers a market-based way to promote sustainable energy policies. But green marketing is not without pitfalls.

This paper examines the issues of green marketing by drawing from experiences in the environmental marketing of consumer goods. In the early 1990s, environmental consumerism moved into the mainstream, and marketers responded with product claims, advertising, and new products. In response to marketing abuses, legal and regulatory activity followed, as well as the development of third-party certification programs.

Similar issues have already arisen in the energy field. Definitions of green-power products have been stretched through misleading claims in retail pilots and green pricing offerings. Polls showing the popularity of green marketing have caused members of Congress to argue for withdrawing all policy support for renewables. Faced with these troubling developments, advocates have called for regulation, disclosure, and third-party certification.

The energy industry should avoid the trial-and-error method of green marketing that characterized the consumer goods market. Hard-won experience in the environmental marketing trenches provides a good starting point for green-power marketers and regulators.

☐ Marketers will need to know what to sell and what to expect from green marketing, the demographics of green consumers, how to communicate with them, and whether third-party certification is helpful.

☐ For regulators, the actions of the Federal Trade Commission, state attorneys general, and the EPA provide a template for ensuring truthful and credible claims. Labeling activity in the US and abroad shows how an energy seal of approval could work or fail, the importance of fuel and emissions disclosure, and implementation problems with third-party certification programs. Moreover, the relationship between green marketing and other public policy options shows that many choices are available to regulators.

☐ Both groups need to consider the definition of a green product, the danger of misinterpreting willingness-to-pay surveys, and the risk of overinterpreting green pricing and retail pilot programs.
Green Marketing Activity in the 80s and 90s

Using environmental features to sell consumer goods has fluctuated with public interest in the environment. Spurred by some high-profile events like the Exxon Valdez oil spill, the Chernobyl nuclear disaster, and Earth Day 1990, public interest was very high during the late 1980s and early 1990s.

As people became aware of environmental degradation, they began to “think globally and act locally,” such as by purchasing products that claimed to be “environmentally friendly.” The response by marketers and industries varied, depending on how the environmental impact of their product was perceived. For some products, such as laundry detergents and diapers, environmental claims were standard, and significant changes came about due to public demand.

Overall, the number of environmental claims made for products doubled between 1989 and 1992, appearing on 12 percent of all new product introductions (EPA, 1993b). Claims for organic foods, recycled or recyclable packaging, and biodegradable soaps became common.

In the wake of this marketing trend came a backlash. Some marketers stretched the limits of what law enforcement and consumer protection agencies thought was permissible. Between 1990 and 1992, the Federal Trade Commission, a task force of state Attorneys General, the New York City Department of Consumer Affairs, the National Advertising Division of the Council of Better Business Bureaus, and individual state attorneys general took legal actions against 48 environmental claims.

At the same time, a number of third party seal-of-approval programs started up, seeking to act as impartial judges of the environmental impacts of products. “Ecolabel” programs are now active in more than 20 countries. In most, ecolabel programs are government-run, such as Germany’s Blue Angel. In the US, two nonprofit groups, Green Seal and Scientific Certification Systems, offer claim verification, seal-of-approval, and “report cards” disclosing environmental impacts from a product’s life cycle.

In response to the growing number of misleading claims, the FTC issued a set of environmental marketing guidelines in 1992, spelling out what they thought were acceptable and improper environmental claims. Since then, the number of green claims has declined slightly, appearing on about 10 percent of all new products. American marketers have generally preferred to make first-party claims for their products within the confines of the FTC guides rather than submitting to third-party testing and verification.

Although the frenzied heyday of environmental marketing has passed, it has instead settled into the mainstream of product marketing. Many firms have realized the cost-saving benefits of source reduction and pollution prevention.
For a substantial demographic of the buying public, environmental considerations have become a standard factor used to make purchase decisions.
Utilities and power marketers are gearing up to sell energy and energy services in a competitive market. At least 32 “green pricing” rates have been permitted by state utility regulators, and a few retail demonstration pilots are underway, with marketers including green options in their product lines. These programs and offerings are listed in Appendixes A and B.

Green pricing programs have relied on existing renewable generators and new sources. In Traverse City, Michigan, the municipal utility supplies 250 residential and commercial customers with a single wind turbine erected for the project. One of the largest programs is offered by Wisconsin Electric Power Company, supplying 5000 customers with power from existing hydro, biomass, and landfill gas projects. Price premiums range from less than a penny per kilowatt-hour to more than 50¢/kWh. A number of green pricing programs are not tied to specific energy use, but are instead donation programs.

Retail pilots are underway in a number of states, most notably in New Hampshire and Massachusetts. The green products offered in pilot programs do not always consist of renewable energy. Instead, some marketers have packaged energy efficiency measures with standard pool-supplied power. When the pilot offerings do include renewable energy sources, the sources are almost all from existing generators.

California’s electricity market will be the first in the US to open to retail competition, on January 1, 1998, and many green power marketers are preparing to sell energy and energy services there. Rhode Island, Massachusetts, and Pennsylvania are rapidly approaching competitive markets as well.

There is a skepticism in the environmental advocacy community that green marketing alone will increase the amount of renewable energy already in place. If only residential customers are interested in paying a premium for green power, the argument goes, then immediately two-thirds of the electricity used in the US is off limits. If 10 percent of residential customers choose a mix of 100 percent renewable energy, their premium demand for renewables would be only three percent of the total electricity mix. This premium demand, combined with low-cost renewable sources that would survive without a premium, may not expand what is currently available. On its own, then, green marketing would only support the status quo, rather than make improvements. (Rader, 1997; Coyle, 1997)

In another analysis, green marketing was estimated to contribute only 7.5 million MWh of renewable electricity over five years, compared to between 57 and 114 million MWh from renewable portfolio standard proposals (Holt, 1997b).
On the other hand, support for environmental marketing comes from the 1992 Earth Summit in Rio de Janeiro. As part of Agenda 21, governments worldwide agreed to “encourage expansion of environmental labeling and other environmentally related product information programmes designed to assist consumers to make informed choices” (Prudencio, 1996). The American Wind Energy Association has characterized the benefit of green marketing as “a modest and badly-needed boost to the market for wind equipment, but more importantly, it will substantially increase public awareness of clean energy technologies. In so doing, it can help to lay the foundation for a serious approach to renewables.” (AWEA, 1997)
Whether green marketing of energy will be enough to transform the renewables industry or just raise awareness, there are a number of lessons that can be drawn from the experience of green marketing in the consumer goods world.

1 What is “green” and who says so?

Prompted by early experience from pilot retail programs in New Hampshire and Massachusetts, environmental advocates are concerned that power marketers will make misleading claims for their energy products. One New England marketer, for example, sold “green” power produced from a hydroelectric storage system, although the water was pumped into the hydro system using conventional fuels like coal, oil, and nuclear power.

Some have called for clear definitions of what constitutes a “green” power source (Meersman, 1997). In the consumer goods arena there were no standard definitions of environmentally preferable products until after some marketers had been prosecuted for making misleading claims.

Although many look to the federal government for leadership on national consumer protection issues, the Federal Trade Commission was responsible for only seven of the 48 legal actions taken from 1989 to 1992. Once they did become involved, however, they became the main watchdog against misleading environmental claims, pursuing 25 more cases since then. Since its inception in 1914, the FTC has wielded broad authority to prosecute “unfair or deceptive acts or practices in affairs of commerce.” It does not, however, issue rules in advance; instead the FTC uses an \textit{ex post facto} approach “should widespread marketing abuse or consumer confusion occur” (Frankle, 1997).

In 1992 the FTC issued environmental marketing guidelines in response to calls from industry and consumer groups. Industry groups complained about a “patchwork” of regulation that was developing at the state level, while advocates wanted strong government action to stop misleading claims. The FTC’s guidelines are voluntary, but give an indication of how the FTC might act if it chose to take “corrective action.”

The guidelines are composed as a series of examples illustrating general principles and the use of specific claims. In general, claims should be clear, provide enough information for a complete judgment by consumers, should not overstate the environmental benefit of a product, and should be able to be substantiated by the marketer. Blanket “environmentally friendly” claims should be moderated with specific information. If the FTC decides that the claim can be interpreted by a “reasonable person” in a way that cannot be substantiated, it issues a “consent agreement.” The marketer must cease making the claim and may have
to pay a fine of up to $10,000. In a recent ruling against Exxon for making unsubstantiated claims about high-octane gasoline, Exxon was ordered to run public service commercials refuting their earlier claims (FTC, 1997).

After three years of use the FTC took public comments and modified the guidelines; these revised guidelines were released in 1997 to clarify previous uses and to include new terms (MacArthur, 1997). Although they don’t include claims for energy and energy services, the FTC could expand the guidelines in the future. Given their mode of operation, however, they are unlikely to do so until problems develop in an active market.

Because the FTC is unlikely to be proactive, other groups may attempt to define green power products and acceptable claims. Before the FTC acted in 1992, industry groups had composed standards and definitions, a number of states had passed laws about environmental marketing claims, and a coalition of state attorneys general had released their “Green Report” defining terms. The FTC issued their guidelines in response to this “patchwork” of rules. Since then, some states have revised their own labeling laws to be compatible with the FTC guides. Wisconsin, New York, and Maine have all composed rules such that marketers who are out of conformity with FTC guidelines are also in violation of state law (James, 1995).

Environmental and consumer advocates tended to seek stricter definitions—ones that would promote products with lesser environmental impacts. Industry groups on the other hand, thought rules should only ensure that marketing claims were truthful. As the National Food Processors Association argued, “The purpose of regulating environmental marketing claims is not to establish detailed environmental policy through minimum standards for product performance, but to encourage truthful consumer communications.” (EPA, 1993b)

The Environmental Defense Fund, among others, argued that although FTC guidelines may ensure that claims are truthful, “they have not ensured that the claims will deliver real benefits.” Even factual claims, they point out, may not be desirable according to government policy or environmental benefit. Photodegradable plastic, for example, breaks down into a plastic dust when exposed to light, potentially contaminating groundwater and making cleanup difficult. Claims that the plastic is degradable are true, though the benefit is debatable. Undesirable claims may undermine policy goals by creating confusion and mistrust among the public. (EPA, 1993b)

Regardless of positions taken by these groups, the final arbiter of environmental claims will be the general public. The risk for a marketer of being prosecuted by a governmental agency or being the target of attack by an advocacy group is not in the direct effects of those actions, but in the loss of credibility and trust in the public’s eye. Because official enforcement agencies are often understaffed and overworked, regulation of the marketplace usually falls to competitors and
interest groups—what California Energy Commissioner Michael Moore calls “the world famous tattler system” (Moore, 1997).

Greenpeace has already brought the world of FTC regulation to the utility field. In 1994 Greenpeace complained to the FTC and the attorneys general of New York and Illinois that the American Gas Association was making misleading claims for natural gas. “If more industrial and power plants switch to natural gas, we’ll help wipe away acid rain, instead of wiping away our environment,” the AGA claimed in advertisements. “Clean, economical natural gas. Think of what we’ll save.”

Greenpeace objected to the absolute claim of “clean,” citing the various life-cycle environmental impacts of natural gas and FTC guidelines that discourage general environmental claims without substantiation (Utility Environment Report, 1994). The AGA resolved the case informally with Greenpeace, by agreeing to change the wording of the ads.

**Implications**

FTC’s approach to defining marketing claims after the fact allows for marketing to be tested in the real world. On the other hand, it requires consumers to be misled before any action is taken. In the case of environmental marketing, a fairly new and untried field, their hands-off approach was arguably reasonable. Energy marketing is also a new field, but the sources of energy are typically not. It may benefit both marketers and consumers to have a groundwork already laid for green-power marketing claims.

The process of composing such definitions may not be as straightforward as some might think. Should “green” energy products come from “renewable” or “sustainable” or merely “less polluting” sources? Should there be rigid qualifying rules, as in an ecolabeling program, or should claims of relative benefits be allowed? And because the greenest form of energy is energy conservation, how should conservation be defined, marketed and labeled?

According to consultant Ed Holt, “the determination of what is green may be a local or regional decision” (Holt, 1997a). Although this is valid from the viewpoint of a regulated energy system and from an ecological perspective, it may break down as markets become larger and even national. National marketing will be difficult for both companies and consumers, with the same “patchwork” of rules that hindered environmental marketing of consumer goods.

As discussed below, third-party certification of environmentally-preferred products has not been an overwhelming success in the US. Marketers have preferred to make claims for their goods within the confines of the FTC guidelines, finding it more flexible than submitting to a third party. If energy
issues cannot be defined by certification programs to the satisfaction of marketers, they are unlikely to participate in any certification plans.

One marketing practice from the electricity retail pilots that could stray into trouble is the use of green-tinged “marketing accessories.” Retailers have attracted customers by giving away trees and bird feeders, making donations to good causes (cause-related marketing), and using environmental images and brand names in advertising. According to the FTC, general environmental claims “should be avoided or qualified, as necessary, to prevent deception about the specific nature of the environmental benefit being asserted” (FTC, 1992). Because deception hinges on the perceptions of consumers, using marketing accessories to cast a green glow on a nongreen product could quickly lead to trouble.

In addition to the general guidance of the FTC environmental guidelines, there are at least three efforts underway to set some ground rules for green marketing of renewable energy. With funding from the National Renewable Energy Lab, the Renewable Power Marketing Initiative is bringing together utilities, marketers, developers, and consumer groups to develop a “Code of Conduct” for green marketers. The Code, still under discussion, sets rules for disclosure, verification of environmental claims, and dispute resolution. (Seth and Kasius, 1997)

Another “code of conduct” has been developed for green-power marketers by the Center for Resource Solutions, a San Francisco-based group founded by Jan Hamrin. Their code is part of a broader supplier certification and promotion program in California. CRS will award a “Green-E” logo to power products that are more than 50 percent renewable, that have lower than average fossil fuel emissions, and that minimize the use of nuclear power. (Center for Resource Solutions, 1997)

A third effort to set rules for renewable power marketers is underway by the Green Group, a coalition of 20 leading environmental groups. A panel is developing “a method to determine what’s green,” including a questionnaire and disclosure format for power marketers, and a simple model to compare the environmental impacts of different energy products. The guidance will be offered by the Green Group organizations to their members. (Smiley, 1997)

2 Interpreting willingness-to-pay surveys for green power

Since the mid-1980s consistent majorities of poll respondents have been willing to pay more taxes, pay more for gasoline and cars, pay more for electricity, and accept a lower standard of living in exchange for environmental protection (Farhar, 1993). Although many consumers report that they are willing to pay a
premium for environmentally-friendly goods, few carry out their stated preference when faced with purchases. Market researchers estimate that less than 10 percent of those who proclaim a willingness to pay more actually will (Byrnes, et al. 1995).

In one laboratory study, subjects using real money donated 20 to 40 percent of what they said they were willing to pay for “public goods.” In general, expressed willingness to pay should be used “as an index of customers’ preferences” rather than a literal prediction of behavior (Farhar and Houston, 1996).

Nonetheless, some environmental products have been quite successful, despite being sold at a premium. Organic food, cruelty-free beauty supplies and recycled toilet paper, for example, have all carved out niches in the marketplace. Like any successful product, these have benefited from a strong startup, astute positioning, good publicity, and luck. In short, the success of green marketing (or any marketing) depends on a number of factors that are not reflected in surveys.

Electric utility offerings have already discovered this truth. Public Service of Colorado gave customers the option to donate $2 per month or to round up their utility bills to the next whole dollar amount, with funds going toward utility-implemented renewable energy projects. In surveys of their customers, they found that 70 to 80 percent of customers would pay more for renewable energy. They were then disappointed to find that only five to eight percent contributed to the renewable energy fund. (Utility Environment Report, 1996)

It is possible that the low response to the program is not an indicator of a lack of interest on the part of customers. A number of survey biases, interpretation problems, and disconnects between surveys and programs have been identified (Farhar, 1996):

- Sample results can be generalized to whole populations inappropriately, such as from focus groups to service-area populations.
- Green pricing programs that are the subject of the survey may be real or hypothetical, with different survey responses as a result.
- Programs may be poorly designed, and may not meet customer needs or desires.
- Questions may be phrased in a vague or leading way.
- Customers may not understand the difference between rate-based regulation and voluntary programs, or know about current utility energy sources.
- Customers may not trust or believe their utility. Some research suggests that municipal utilities may be more successful in this regard than profit-seeking investor-owned utilities (Marcus, et al., 1995).
Adoption of a newly-offered green-pricing program may take longer than expected.

Farhar and Houston point out that responses in national surveys are not necessarily representative of responses in specific markets. A number of utilities have performed local market research on their own customers, with results often turning out to be less favorable to green power than national surveys. National polls are evidence that people favor “environmentally friendly” electricity generation, “whether or not they themselves participate in such programs” (Farhar and Houston, 1996).

In addition to these specific mistakes, surveys can suffer from some unavoidable problems, the most important of which for environmental surveys is the “socially desirable response” bias. Survey respondents, with or without leading questions, know what is expected from them from society, and respond accordingly. This “halo effect” is a common problem with surveys on the environment, race, and other sensitive social issues.

In general, willingness-to-pay surveys find the expressed preference of survey participants, but not their revealed preference. Research in progress by the Energy Center of Wisconsin seeks to overcome this problem by comparing the stated preferences of customers to their behavior when offered a green-power option. After a standard willingness-to-pay survey, randomly selected customers will be offered actual power from wind turbines. By offering different customers a range of prices, the study will be able to sketch out a demand curve, which will be compared to the survey response. This two-pronged approach should shed some light on real world behavior compared to market research.

3 Interpreting green pricing and retail pilots

Retail competition pilots have been offered in New Hampshire, Massachusetts, Illinois, and elsewhere, with new electricity suppliers competing for a small set of customers. Although regulators and marketers alike have examined these pilot programs closely for clues about functioning retail markets, the pilots may not accurately reflect working markets.

In one important difference the choice of energy products offered in retail pilots has been constrained by the existing energy infrastructure. In other words green-power marketers have rarely had green power to sell. Because pilots are of limited scope and duration, power marketers are unlikely to make investments in new generation sources until competitive markets are established.

Moreover, some suspect that power marketers are taking advantage of the limited scope of pilots to sell power at a loss, in order to make a strong impression at this early stage. One critic of the New Hampshire pilot asks, “Do you think those prices are really going to be there when competition is all
over?” In Illinois a retail pilot operated by Central Illinois Light Company generated a great deal of controversy, with allegations of cheating made against CILCO. CILCO’s unregulated affiliate managed to capture 96 percent of the market against six other suppliers (Schuler, 1997).

Shortly after leaving the Wisconsin Public Service Commission, Commissioner Scott Neitzel warned, “Beware of pilots. These are quite simply—bait.” He points out that because of reserve margins, “everyone has ‘a little extra’ they can sell you cheap, but they would never sell their entire output at that price. Results at the margin are no indication of results in the aggregate.” (Neitzel, 1996)

If standard electric power is being sold at artificially low rates, the price premium for green sources may be exaggerated, leading to a lower response to green power.

Like the retail pilots, utility green-pricing programs are not a perfect indicator of green-power marketing in a competitive industry. Customers are typically limited to a single green-power option from a single supplier, their current utility. As utility green-pricing programs mature, more options are becoming available. The Sacramento Municipal Utility District, whose PV Pioneers was among the first green option, now offers a number of choices to customers, including a green tariff and a community solar program (Lau, 1997).

This lack of competition can lead to distorted results. Detroit Edison, for example, offers customers a chance to pay an average of $6.59 per month for 100 watts of service from a 28.4 kW photovoltaic plant. This works out to almost 60¢ per kWh, far higher than typical current PV costs (Stevens, 1996). Considering the utility also enjoys substantial avoided costs through peak shaving, the charge is even higher than what other suppliers might offer. Nonetheless, the utility was able to sign up more than 200 customers. If these customers were able to choose from competing renewable energy suppliers, they would likely be paying much less for solar-generated power.

Green pricing offerings may also be opposed by some on philosophical grounds. Some customers may be interested in supporting renewable power, but are not willing to pay for programs that are offered. Blair Swezey of the National Renewable Energy Lab has identified some criticisms (Swezey, 1997):

- Renewable energy provides public goods such as clean air; therefore all of society should pay equally for its benefits.
- Green pricing perpetuates the perception that renewables are too expensive to be practical. Charitable donation programs are especially demeaning in this regard.
Utilities may have a disincentive to developing viable renewables programs. Utilities with coal and nuclear plants, for example, may fear that substantial support for renewables could undermine their existing resource mix.

Unsuccessful green-pricing programs may be used by opponents of renewables to argue that the public is unwilling to pay for renewables, no matter how bad the green-pricing product is. The result is a sort of blackmail of environmentally concerned customers.

An original motivation for green pricing programs was that utilities could get early experience in marketing a differentiated product while still sheltered by regulation. Some commissions and utilities recognized early on that “the opportunity for strategic product development during the transition to a more competitive market is enormous. While the customer base is still captive, the utility can economically identify customer preferences, analyze product portfolios, and implement strategic alignment; the partnering opportunities in the renewables industry are boundless.” (Herig and Houston, 1996)

In this transitional position, a conflict has developed between traditional “cost-based” rates and the “value-based” rates that will prevail in a rereregulated world. Value-based rates—whatever the market will bear—may give a better indication of how customers and suppliers will respond in an open market. But because the utilities offering these options are still regulated monopolies, value-based rates are incompatible with regulated rates of return.

This raises a larger question about the goal of green pricing and green marketing in developing a sustained renewable energy industry. For those renewable energy sources that are more expensive than standard fossil fuel sources, a green premium can create a vital market niche. But for renewables with competitive production costs, such as most hydropower and some biomass and wind power, higher prices are not necessary for their survival. In a world of deregulated rates, however, marketers will seek the best price possible, using environmental benefits as an incentive.

If price is a key driver for green marketers, only the least expensive renewables will survive, and the goal of promoting new technologies will be stifled by the same barriers that kept renewables out of traditional utility planning. From a free-market perspective, it will be up to power marketers to differentiate their products as much as possible, seeking a niche for specific advanced technologies, like photovoltaics and fuel cells. From a public perspective, additional policy measures may be needed to promote noncompetitive but promising energy sources.
4 Marketing energy-efficiency services

Polls indicate that for energy consumers interested in a green option, renewable energy may be more popular than energy-efficiency services. A 1990 poll found 59 percent choosing renewables as the best way to meet the country’s “need for energy in the future,” compared to 25 percent for energy efficiency. In a 1995 poll on federal funding of research and development, renewables were named as the highest priority for funding by 34 percent of respondents, compared to 21 percent for energy efficiency. Among renewables, photovoltaics is consistently cited as the favorite. (Farhar, 1996 REPP)

Although energy-efficiency services may be downplayed as a green option, they will certainly be used to attract customers interested in saving money. Early indications are that energy efficiency will be offered in very different ways to small and large customers.

For large commercial and industrial customers, energy efficiency services are already being offered by competitive suppliers, including current utilities themselves. Many utilities have had long-standing relationships with their largest customers, offering demand-side management as a customer service to reduce costs as well as provide other benefits to customers and utilities.

This relationship is coming under pressure now in the interest of increased competition. The Public Service Commission of Wisconsin, concerned that ratepayer support gave utilities an advantage that is preventing development of a competitive energy service market, has taken steps to level the playing field. When Wisconsin Electric Power Company asked to drop their DSM goals for large commercial and industrial customers, the Commission responded by cutting any ratepayer support for their efforts. Nonetheless, WEPCO considers these DSM efforts “important enough for customer service and to retain customers” that they are continuing to offer energy-efficiency services to large customers (Stemrich, 1997).

The definition of energy services is also expanding from energy efficiency to a more comprehensive approach. Energy-service companies offer purchasing, customer aggregation, power quality control, monitoring and data analysis, as well as energy-efficiency consulting. In the words of one company, “AET is not a traditional energy management company; rather, AET focuses on true cost-reduction, which is not always the result of energy efficiency” (Atlantic Energy Technologies, 1997).

Business customers may also respond to green marketing of energy services as a way to reduce environmental compliance costs. Government programs like DOE’s Climate Wise and EPA’s Green Lights, for example, are voluntary efforts to help firms reduce pollution through energy efficiency.
For residential and small commercial customers, approaches to marketing energy efficiency will be different than for large customers. In retail pilots in Massachusetts and New Hampshire, a number of marketers offered efficient light bulbs, showerheads, and other introductory gifts as a promise of reduced costs, as a simple incentive, and as an environmental feature. One marketer, Enova Energy, offered an introductory home energy audit followed up by quarterly usage reports. (Rothstein, 1997)

Though they may be offered as a way to attract small customers, residential energy-efficiency services on their own are not expected to support a competitive energy-services industry. Small customers are not likely to pay for ongoing monitoring and efficiency improvements. Instead, “public benefits” funds may be used to underwrite part of the cost of providing residential DSM, with energy-service companies competing for implementation funds. Public benefits funds would be collected from all electricity users through “line charges” or “system benefits charges” and used to support energy efficiency, low-income energy programs, environmental research, and renewables. In Wisconsin these funds would be overseen by a proposed Public Benefits Council. (PSCW, 1997)
1 Who will buy green power?

If customer interest in environmentally preferable consumer goods is an accurate indication, markets for green power are likely to be niche, not mass. Despite surveys that show that large majorities of Americans consider themselves environmentalists, and despite their professed willingness to pay to protect the environment, the market share of most environmentally oriented goods has been modest.

On the other hand, the demographic profile of environmentally concerned consumers may also be the most desirable to marketers. Such customers, called “True-Blue Greens” and “Greenback Greens” in Roper Starch Worldwide’s annual Green Gauge study, tend to be better educated, female, and have higher-than-average earnings. According to Roper they account for about 20 percent of the American public (Gamble, 1996). A vice president at S.C. Johnson, a large consumer goods company headquartered in Wisconsin, says, “this segment of the population is the group of Americans most apt to act upon or purchase a product because of the environmental information on the label” (Hutterly, 1995).

Energy marketers may be especially interested in this group. Because these customers are more affluent and educated, they may also be more likely to respond to cross-marketing of related services like internet, telephone, and home security services. Dozens of utility companies are already testing the market for providing telephone and internet services. According to McGraw-Hill 80 electric companies are entering the telephone business and at least 20 of these intend to offer internet services (Rafter, 1997).

The Electric Power Research Institute has been studying the behavior of residential customers choosing telephone, cable television, gas, and electric companies. In one part of the survey, EPRI probed for interest in “ancillary services” for energy users, like surge protection, home security, and monitoring personal energy use. Energy monitoring, such as using two-way communications to control appliances, in combination with variable electric rates, had the lowest current penetration but got the highest level of interest from respondents. Only seven percent report having it now, but 45 percent had some interest or were very interested. Interest levels increased with income, peaking at 53 percent of higher income households. (PNR & Associates, 1996)

The EPRI study also defined four demographic groups, based partly on age. The youngest group—under 35—has the highest phone bills, a high cable television penetration, and the greatest interest in home security and surge protection services. They are also “overwhelmingly” more interested in monitoring
personal energy use. On the other hand, they are the most volatile customers for switching providers, causing EPRI to dub their group “10 cents a dance.” (Diehl and Gillman, 1997)

Surveys have consistently pointed out that young consumers are more likely to be environmentally concerned. Research by Environmental Research Associates and Opinion Dynamics suggests that young people are more pessimistic, better informed, and more likely to take actions to protect the environment. They found, for example, that 99 percent of American schools have environmental classes, that 23 percent of parents reported avoiding a product because their kids said it was bad for the environment, and that half of those 18 to 24 believe the next decade will bring environmental degradation, compared to a national average of 35 percent (Gamble, 1996).

Power marketers trying to differentiate themselves will have a limited number of options selling only commodity electricity. At the most basic level environmentally conscious energy will be one option among many that a full-service marketer will offer to residential customers. It may also be an effective way to connect with the most attractive customer segments.

**C&I customers**

It is commonly assumed that only residential customers will be interested in green power. Research by Portland General Electric, however, partially refutes this presumption. In a survey business customers were slightly less interested in taking “environmental actions” such as reducing pollution and preserving wetlands, but were just as willing as residential customers to pay a premium for renewable energy. Although the average premium was lower in percentage terms, it was higher in dollar terms. (Weijo, Kuns, and Boleyn, 1997)

Also, a “deliberative poll” done by Central and South West Services for three Texas utilities found generally similar attitudes from residential customers as from commercial and industrial customers. The deliberative polling process consisted of a survey followed by a two-day informational focus group, where 250 people debated the issues before being polled. Although the sample of C&I customers was small, and varied from one utility to the next, their attitudes about renewables and DSM tracked residential opinions. (Central and South West, 1996)

In a real-world example, Traverse City Light and Power’s green-pricing plan signed up 26 commercial customers for wind-generated power, in addition to 224 residential customers. Because the commercial customers have larger loads, their purchase amounts to over 25 percent of the power generated. Commercial customers paid a premium of 1.58¢/kWh and agreed to a 10-year contract. One small business owner pointed out the marketing benefits of green power: “It gives us a little higher profile, and shows that we’re doing our bit to be good citizens” (Flesher, 1997).
On the other hand, few small business customers in the Massachusetts retail pilot chose green options. Although 31 percent of residential customers bought green offerings, only 18 out of 547 participating companies, or three percent did likewise. One supplier, Enova Energy, specifically targeted small businesses with ads, yet made only one sale. (Rothstein, 1997; Wood, 1997)

So while some commercial and industrial customers will see an advantage in buying green power, they may not be more than a niche market. Their interest will likely depend on residential customer attitudes toward green power; if their customers and employees are interested in it, the businesses will reflect that interest.

2 Working with environmental groups

A number of businesses have struck up relationships with environmental groups for product endorsements, cooperative projects, or general image enhancement. Although many of these are beneficial to both parties, some can run up against charges of greenwashing on the part of the company and selling out on the part of the advocacy group.

In 1990 the Environmental Defense Fund collaborated with McDonald’s to help them reduce the environmental impacts of their packaging. The result was that McDonald’s abandoned their polystyrene clamshell hamburger box in favor of recycled cardboard. At the time, EDF was highly criticized by others in the environmental community, but in the end McDonald’s relationship with EDF helped diffuse criticism of the high-profile firm, while reducing the environmental impacts of waste. From EDF’s perspective, their work with McDonald’s fit in with their overall attitude of using market forces to effect environmental improvement. (Gutfeld, Rose, 1992)

In a study by University of Massachusetts researchers, 79 of 197 environmental groups studied had some sort of alliance with for-profit businesses, ranging from marketing calendars to sharing staff. Environmental groups were much more likely to have alliances with government and other nonprofit groups. Moreover, a number of respondents reported actively avoiding partnerships with business, suspecting that businesses only wanted a superficial “green-washing” for public relations benefits. There seemed to be a mutual antagonism between some groups and businesses. As one environmentalist said, “They think that if you are for the environment that you must be antibusiness. They think we’re all twig-eating extremists.” (Milne, Eayer, and Gooding-Williams, 1996)

On the other hand, researchers found that collaborations between nonprofits and businesses have been increasing. They attribute the increase to a greater familiarity between businesses and environmental groups, stiffening levels of
environmental regulation, and “the increasing propensity of individual companies to break with their industry association.”

In the energy field, relationships have already been formed between New England’s Conservation Law Foundation and utility AES Corporation, between EDF and the Bonneville Power Administration, and between EDF and power marketer AllEnergy. In Colorado the Land and Water Fund of the Rockies has been actively recruiting customers for the Public Service of Colorado’s green pricing program.

These relationships can be controversial for both the environmental group and the company. A public relations industry newsletter, *O’Dwyer’s PR Services Report*, reported that “companies are finding that cold cash will buy them good will from the environmental movement. Cash-rich companies, PR people say, are funding hard-up environmental groups in the belief that the imprimatur of activists will go a long way in improving their reputation among environmentally aware consumers.” Meanwhile, “non-profit groups are beginning to realize that private sector cash can increase an organization’s clout and bankroll membership building programs.” (Stauber and Rampton, 1995)

While some environmental groups see green marketing as a way to directly increase the renewable energy supply, they may face some ethical problems by becoming power marketers themselves. Public advocacy groups that promote government solutions to environmental problems may be promoting public policies that would benefit their own group financially. While there may or may not be a conflict of interest, there will be a loss of impartiality and independence. Conservation Law Foundation, for example, was criticized for participating in restructuring activity in New England, and then partnering with AES Corporation to bid for New England Electric Service’s generation plants (Allen, 1997).

Businesses may not have as much reputation at stake in a relationship, but should carefully consider whether to make them. A legitimate and substantial relationship with a public group could require the company to allow outsiders to affect their operations. If the relationship should turn sour, there may be a risk of public embarrassment. On the other hand environmental groups can offer a specific expertise that marketers may lack, and a fruitful alliance can yield environmental improvements as well as a better reputation.

### 3 How important is the environment as a marketing hook?

For consumer goods, price, performance, and ease-of-use are considered to be first tier factors affecting purchase decisions. The environmental benefit of a green product may be an important contributing factor, but is not a prime
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consideration for most consumers and most products. Thus, depending on market competition, environmental benefits will command only a limited price premium.

“People are using the environment as a tie breaker, and they are not willing to pay extra,” says Edward B. Keller, executive VP for Roper Starch Worldwide. They assume that companies will act to protect the environment. “It’s the same way that quality is now assumed. People aren’t willing to pay more for higher quality because they find that the quality is equally high between midrange products and high-priced products. The same is true for the environment.” (Gamble, 1996)

This impression is supported by recent field research in Britain. The UK Ecolabeling Board, which administers the European Union’s ecolabeling program in Britain, did a study of shoppers there. They found that “while convenience, performance and price are key determinants in buying behavior,” the environmental features of a product offer a “competitive advantage where other factors are equal” (Victory, 1996).

For the commodity of electricity there may be a slightly different dynamic than for other consumer goods. Performance in the form of service reliability and power quality may be critical to some industrial and commercial customers, but much less important to residential customers. Convenience will not be an issue for the use of energy, but will be important for billing, purchase decisions, and the delivery of energy services.

Survey results from the New Hampshire pilot program found that price was far and away the most important factor in switching to a new power supplier. Price was cited as a “strong influence” by 71 percent of respondents, while reputation was next at 27 percent. The environmental messages or image of the power supplier was cited by 20 percent as a strong influence, but also cited by 54 percent as having no influence on their decision. (UNH Survey Center, 1997)

On the other hand ease of use in making a decision was an important factor in the retail pilot. Of customers who were selected to participate in the pilot based on their geographic location, almost half did not switch when given the opportunity. More surprising, 36 percent of those who volunteered for the pilot did not switch, even though all other options were less expensive than the status quo. The main reason for not switching was that it was “easier to stay with the old power supplier” (52 percent) and that the competing offers were too confusing (38 percent).

While it is important to take all retail pilots with a grain of salt, the results in New Hampshire seem to reflect the same hierarchy of factors that affect the decision process for consumer goods. The environmental benefits of green power will create more than a niche market only if the impacts of energy generation are better understood and appreciated by consumers.
1 Interaction of green marketing and regulation

The polled popularity of renewable energy has prompted some free-market advocates to suggest that environmental marketing will provide all the support necessary, and that government policy need no longer be concerned with renewables and energy efficiency (Congress Daily AM, 1997). If the people are not willing to pay for green power, they argue, then they must not really want renewables.

Most visions of a restructured utility industry acknowledge that regulation will continue, although in a different form. The government’s role in free markets where customers can choose to pay for environmental amenities has already been examined, and a number of options are available.

In 1991 the British House of Commons released a report on ecolabeling programs, including the German Blue Angel program. “The Germans appreciate well that there are three ways of tackling pollution,” they wrote, “by regulation, by fiscal incentives and by informing and educating. Ecolabeling is part of the third leg of this policy tripod.” (Paulos and Stoeckle, 1994)

Environmental marketing, in the form of claims, advertising, and mandated and voluntary labeling programs, combine with educational efforts to make up the third leg (see Figure 1). Third leg activity creates market-based incentives to surpass minimum standards. Environmental certification programs are a formalized way to reward companies that are making an extra effort to make environmental improvements.
Figure 1: Classification system for environmental marketing (source: US Environmental Protection Agency, 1993a)

**Environmental Marketing**

- **First-party environmental marketing**
  - Product-related
    - Cause-related marketing (e.g., "Proceeds donated to...")
      - On products or shelf labels
  - Corporate-related
    - Claims (e.g., recyclable)
    - Cause-related marketing (e.g., company supports WWF)
      - In ads
  - Promotion of corporate environmental activity or performance

- **Third-party environmental labeling programs**
  - Voluntary
    - Environmental certification programs (e.g., Pesticides, O₃, Prop. 65)
      - Report card
    - Hazard or warning (e.g., EPA fuel economy label)
      - Seal of approval
  - Mandatory
    - Information disclosure
      - Single-attribute certification
Environmental marketing is not intended or likely to be sufficient to reach public policy goals such as environmental protection and technology development on their own. Instead, regulation provides a floor of behavior, enforcing minimum standards. A government’s interest in green marketing is to reinforce public policy goals through market behavior. A free and open exchange of ideas through marketing can be a powerful supplement to government programs, provided it is truthful and substantive.

During the transition to a competitive energy market the relationship between market-based incentives and regulations has become controversial. Some argue that because green marketing is an incentive it should only apply to energy and energy services that go beyond what has already been mandated. Efforts to sell power from existing units at a premium have met with strong criticism from green-power advocates.

The Bonneville Power Administration, for example, is required to release water through its turbines to maintain river levels and preserve downstream habitat for fish. As the water is released, electricity is generated, but not at the optimum time to meet system demands. BPA is proposing that it sell this power for a premium as green power, and spend the income on other environmental improvements. But because the power is produced as a result of normal—and required—operations, the product is no different than the rest of the power produced. At best BPA is offering “cause related” marketing. Although the product is no different, the premium is essentially a donation toward environmental benefits.

The United Power Association, a Minnesota electric cooperative, is formulating a green pricing program, called “It’s a Breeze.” UPA had initially planned to erect a single wind turbine, but now proposes to sell power from Northern States Power Company’s mandated wind energy program. NSP is required under state law to build 425 MW of wind energy capacity, and the expense for that mandate has been included in its rates (ME3, 1997). One environmental critic charged that UPA “wants to be called green without doing anything for it ... It does not produce cleaner air. It doesn’t pass the consumer fairness test. All it does is put more money in NSP’s coffers.” (Meersman, 1997)

Another important interrelation will be between green marketing and the renewables portfolio standard (RPS). The renewables portfolio standard, advocated by the American Wind Energy Association and others, would require a portion of any marketer’s energy mix to come from renewable generators. In the federal restructuring bill proposed by US Representative Dan Schaefer (R-CO), the requirements would start at 2 percent in the year 2000 and rise to four percent by 2010. Similar provisions are in bills introduced by Rep. Markey (D-Mass.), Senator Bumpers (D-Ark.), and Senator Jeffords (R-Vt.) and in restructuring laws in Maine, Arizona and Nevada. Through a system of tradable
credits, marketers could choose whether to supply power themselves or to buy renewable credits from other suppliers to meet their requirements.

RPS is a supply-side requirement; it says nothing about how the power is sold. In a competitive market, suppliers would sell power for whatever their customers were willing to pay. Marketers could offer their renewables portion to customers as a green-power option, and possibly collect more for it. If they were unable to collect more for all the renewably-generated power in their portfolio, they would have to accept whatever they could get for it. Their premium will be limited by the presence of other marketers selling green products.

An interesting parallel can be drawn from the market for toilet paper. Fort Howard, a paper company in Green Bay, WI, has sold their “Soft ‘n’ Gentle” toilet paper for more than 25 years. Soft ‘n’ Gentle is advertised as “gently quilted to bring softness and comfort to your family.” In 1991 in response to increased consumer awareness and interest in environmental issues, they launched their “Green Forest” brand of toilet paper, advertised as 100 percent recycled with 10 percent post-consumer waste. “Help preserve and protect our natural resources by purchasing Green Forest,” they urge.

Surprisingly, both products are made from the same process. They are physically no different, both made from recycled material, both with equal “softness,” and both sold to wholesalers at the same price. Retailers can charge a premium for Green Forest, though not all do. Because Soft ‘n’ Gentle was a successful product with a long history behind it, the company decided a new brand would be a safer way to capitalize on new interest in environmental issues. (Prunty, 1997)

Although there is no mandate for recycled content of toilet paper, the relationship between the portfolio standard and green marketing could work in a similar way. Any power that cannot be sold at a premium as green would be sold as a regular product. Because all power suppliers would operate under the same requirement, there would be no competitive disadvantage.

If demand for green power is low, the RPS would create a glut of renewable electricity supply, driving down any premium that may exist. Marketers might respond by differentiating their green power product in more detail, such as by selling biomass power to customers who dislike wind power, or vice versa.

If demand for green power outstripped the RPS minimum, then RPS would become largely irrelevant. Like a standard, RPS would act as a floor, while green marketing—the third leg—rewards suppliers who go beyond the minimum.

One conceptual problem with the relation between the RPS and green marketing is that consumers may be paying a premium for power that would be produced anyway. But since all marketers would be required to have a minimum
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renewables content, and since a disclosure label would reveal this to all customers, marketers would be limited in their ability to attract a premium for merely meeting the requirements.

A more serious problem from a public policy perspective is branding. As the RPS is currently proposed, the requirement falls on retailers who may have multiple brands for different customer classes. A single marketer may be able to sell all of their RPS-mandated renewable power under their “green power” brand, and none under their “Cheap ‘n’ Stinky” brand, to industrial customers who buy only on price. With this cross-subsidy, consumer demand would not add to the RPS-mandated level until total demand exceeds that level (which may never occur), instead of adding to it from the start.

A proposal to eliminate this cross-subsidy problem is to require a certain renewable content for all energy products. Rather than putting RPS on marketers, it would fall on the products. So power sold to all customers would have to meet the minimum content; power sold for a green premium would have to go beyond the minimum to attract buyers. Because this would be above the RPS requirement, it would insure that green marketing truly did add to the floor, and did not just switch the mandated power around.

2 Disclosure labeling and certification labeling

The National Association of Utility Regulatory Commissioners issued a resolution recently supporting disclosure of the “price, price variability, resource mix and environmental characteristics” of electricity. NARUC envisions and supports “initiatives leading to minimum, enforceable, uniform standards for the form and content of disclosure and labeling” that would be set by states adopting retail competition. (NARUC, 1996)

Survey results show strong public support for disclosure. A poll in New Hampshire found 87 percent expressing support for required disclosure of “fuel source, contract length and environmental emissions.” Similar results were found in Texas and Maine (Moskowitz, 1997).

The National Council on Competition for the Electric Industry is sponsoring a series of reports on disclosure labeling. The Consumer Information Disclosure Project is studying the viability of data gathering and tracking, legal issues, and consumer attitudes and preferences.

So far research supports the idea. Attorney Scott Hempling looked at the legal arguments against disclosure, based on fuel and emissions data being “trade secrets.” In general consumer right-to-know laws override proprietary concerns when the right to know is deemed in the public interest. Hempling concluded that the “public interest in developing a retail market, with meaningful choices
for all consumers... is likely to outweigh the interest in maintaining
confidentiality.” (Hempling, 1997)

Disclosure has long been a part of marketing in America. The federal govern-
ment has regulated marketing and labeling claims since the Pure Food and Drug
Act of 1906. The Federal Pesticide Act of 1910 required disclosure of active
ingredients of insecticides and fungicides. The Food, Drug and Cosmetic Act of
1938 instituted disclosure of ingredients for food, and nutrition labels were
introduced in the early 1970s.

Private-sector labeling initiatives are even older. Fire insurance companies in
the midwest started the Underwriters’ Laboratories in 1894 to test products for
safety. In 1885 Good Housekeeping magazine began its seal promising a limited
warranty for approved products. Both programs have been in continuous
operation for over a century.

Disclosure and warning labels are in fact ubiquitous, with as much as 65 percent
of all goods and services bearing “some kind of disclosure of negative effects or
potential negative effects.” Support for disclosure labeling has been attributed to
“the emergence of the right-to-know movement and to political support for
regulations that were less obtrusive than the command-and-control regulations
of the 1970s,” as well as product liability lawsuits. (EPA, 1994)

Warning labels are so common that there is some doubt as to whether they are
effective anymore. EPA’s Consumer Labeling Initiative is currently inves-
tigating changes to pesticide labeling, after research that showed the warnings to
be almost completely ignored (Lynch, 1997).

Research results on public attitudes toward electricity disclosure have been
similar to surveys on energy labeling in Great Britain and Canada, where 91 and
81 percent, respectively, thought energy labels on appliances would be helpful
(EPA, 1994). These results show that people rarely turn down the chance to get
more information about a product, especially if that information is costless to
them. More important questions are whether consumers will actually use the
information if it is offered, how they will use it, and whether consumers can
make intelligent decisions without the information.

Clearly, recognition of established disclosure labels can be very high. Some
studies have found that as many as 92 percent of those surveyed recognize the
FDA’s nutrition label. Disclosure labels can be useful for educating the public
and raising awareness of issues, and keeping them consistently in the public eye.
They can also have beneficial effects on manufacturers, when undesirable
behavior is curtailed due to the bright light of disclosure.

On the other hand, affecting consumer behavior can be more difficult. When the
Department of Energy was preparing to launch the Energy Guide appliance
label in 1976 it did a controlled study of how the label affected purchase
decisions. Three groups of appliance shoppers were given 1) no information, 2) the Energy Guide label only, and 3) the label as well as an educational pamphlet and a 15 minute presentation. The third group bought the most efficient appliances, as expected. But the study found that appliances bought by the other two groups had the same level of efficiency. In other words, the label alone had no effect. DOE concluded that an educational program was necessary to make the label effective, a conclusion supported by more recent research (EPA, 1994; Harris, Jeffrey, and Nancy Casey-McCabe, 1996).

Research into disclosure labeling points out critical issues for a successful program:

- Public knowledge and understanding of the issues is key. Without knowing the issues, the connections between purchase choices and effects, and what they can do in response, consumers will have little use for information if it is offered.

- Disclosure labels must be accompanied by an information and education campaign to raise awareness and understanding.

- Labels of any kind need to be offered by a credible source. Whether a government, business, or nonprofit group is best is discussed below.

- The information must be clearly presented and understandable.

- Labeling will be more important for some products and attributes than others, depending on the interest of consumers and manufacturers, what other choices are available, and other vagaries.

Green marketing efforts in retail electricity pilots have already shown how crucial disclosure will be. Enova Energy, a marketer in the Massachusetts pilot, calls itself “the environmentally friendly energy company.” In ads they claim that their “reputation for energy innovations is based on our ability to reliably deliver energy services in an environmentally friendly way.” While Enova offers some modest energy efficiency options, their main product, electricity, is undifferentiated New England power supply: 57 percent nuclear and 35 percent coal and oil. Their green claims consist of reminding customers to save energy, giving away one electric car, and donating a maximum of $30,000 to local governments—based on matching customer donations—for unspecified environmental improvements. (Rothstein, 1997)

Proposals for disclosure rules have been made in restructuring activity at the state level, while at the federal level the Department of Energy has convened an interagency task force of representatives from DOE, FERC, EIA, EPA, FTC and FDA. The Massachusetts Division of Energy Resources has proposed a disclosure label for price, terms of contract, fuel mix, and emissions, as shown in Figure 2. The emissions part of the label does not provide units of pollution, but instead compares emissions from this supplier’s mix to a regional average.
Already some in the utility industry have declared their opposition to disclosure, especially for emissions. Pacific Gas & Electric has complained that emissions disclosure would be complicated and burdensome, and instead proposed that the California Energy Commission voluntarily certify renewable energy providers (Utility Environment Report, 1997). In PG&E’s proposal, disclosure would only become necessary if claims were made for the fuel content and emissions of an energy product.

Voluntary disclosure raises another question about disclosure labeling: can consumers make informed decisions about energy without disclosure labeling? Specifically, if only renewable energy providers disclose the fuel supply of their product, how will customers be able to compare those products with others that...

See your Disclosure Statement for further information regarding this label and your electricity service. You may also call XYZ Energy Supply for additional information or a
do not supply disclosure labels? Moreover, will consumers be able to understand and use the information that is provided to them?

Part of the logical argument for disclosure is that people need to be informed, implying that they are not informed now. Research sponsored by six Wisconsin utilities found that between 20 and 50 percent of various customer groups could correctly identify coal as the leading fuel source in the state, but over a quarter replied “don’t know” and as many as 20 percent guessed hydroelectric power (Wood, Kenyon, Desvousges and Morander, 1995). In fact, coal supplies 75 percent, nuclear 21 percent, and hydropower less than two percent of Wisconsin’s electricity (WEB, 1996).

In addition to providing information on fuel mix and emissions, it will be critical to ensure that the information is clear and comprehensible to the user. The label can be a key part of an educational effort, providing a constant reminder to the public, but only if it is self-explanatory. The Massachusetts label (above) avoids the most technical part of the issue by presenting relative emissions. But it does indicate the key pollutants and provides an easy way to make comparisons.

A bill passed by the California legislature, SB1305, avoids emissions altogether but does mandate fuel mix disclosure for all energy suppliers (Cavanagh, 1997). Power that is not specifically contracted would be reported as a system average. Presumably customers will use their own preconceptions to decide about the relative merits of various fuel sources. While this may simplify the process, it does not allow for distinction between suppliers using the same fuel, such as between coal plants that meet Clean Air Act standards and those that were grandfathered. Such an approach plays in to the public impulse to oversimplify a product as “good” or “bad.” On the other hand, more complex labels may be interpreted the same way.

3 Have private ecolabels failed?

Although third-party certification programs have been testing and endorsing products for over a century, only in the last 20 years have certification groups become interested in the environmental impacts of products. The German government’s “Blue Angel” program started certifying products in 1976, and more than 15 programs have sprouted since then, most in the early 1990s. The German program currently certifies more than 4000 products in 76 categories.

Ecolabels are voluntary certification programs offered by third parties (as opposed to first-party marketer claims). Some of them are based on an analysis of the entire life-cycle impact of a product, while others consider only one or a few attributes. After analyzing impacts ecolabeling programs set standards for defined categories and accept applications from interested manufacturers. Those
products within a category judged to have the least environmental impacts are awarded a seal of approval; programs typically aim to award the best 20 percent of the category. As more products are approved the standards are increased, thus providing for continual improvement. Government ecolabeling programs act as a “carrot” for environmental improvement, as opposed to the “stick” of regulations.

The Environmental Protection Agency has defined three distinct types of eco-labels: seal-of-approval, report-card and single-attribute certification. With seals, the logo used by the awarded products indicate only that it has been judged best within its category. For seals covering only a few impacts, the logo often specifies the impact, such as low VOC emissions for paints. Report-card ecolabels do not judge the best product within a category, but instead offer a disclosure of impacts, akin to the food nutrition label. Once multiple products within a category are labeled comparisons can be made between them. Single-attribute certification programs essentially verify claims made by marketers; they do not set standards. Seal-of-approval programs dominate ecolabeling; there are a few verification labels, such as EPA’s Energy Star, and only one report-card ecolabel. (EPA, 1993a)

Almost all programs are offered or funded by governments. Government programs in the European Community, France, Japan, Canada, the Nordic Council countries, and others have started programs since 1988. In the US, private nonprofit groups took the lead on certifying the environmental claims and attributes of products. Two groups—Green Seal and Scientific Certification Systems—have found small niches, but have had little effect in attracting marketers and changing markets. Their lack of progress can be attributed to:

- **A lack of credibility and familiarity**—Both were started specifically for product certification, with no previous record and no well-known parent organizations.

- **Limited funding**—Although supported by foundations initially, private groups are dependent on fees paid by companies for certification. A lack of funding means limited promotion, which leads to a lack of interest from companies, and thus a lack of funding. This cycle makes it difficult for a private program to become self-sustaining.

- **No accompanying standards or regulations**—Successful labels have often been accompanied by other pressures that increase interest in certification. Safety certification by Underwriters’ Lab, for example, is voluntary, but has become *de facto* mandatory label, necessary for a product to meet building codes in many parts of the country.

Perhaps the most important reason ecolabels have not succeeded in the United States is opposition from industry. Trade groups like the Grocery Manufacturers Association, the Society of the Plastics Industry, the Electronic Industries Association, and the American Forest and Paper Association, as well as
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individual manufacturers like Monsanto and Procter and Gamble have presented a nearly united front against the concept of ecolabeling. Not only have they not applied for certification from ecolabeling programs, they have actively opposed the use of ecolabels in government procurement efforts and international trade (Wildavsky, 1996; Levinson, 1996).

One reason industry opposes ecolabels is because the programs use a method called life-cycle analysis to judge the entire life cycle of the product, from extraction, through production, shipping, use, and disposal. As discussed in more detail below, many in industry argue that life-cycle analysis is not sufficiently developed to allow for comparisons between products and between environmental impacts.

On the other hand ecolabelers argue that industry objections to the science are merely a “smokescreen” for other industry fears (Victory, 1996). Meeting the environmental standards of the ecolabel would mean making changes in production and process methods. Firms that export to foreign markets are worried that national ecolabeling programs could set their standards in a way that favors domestic producers. The American paper industry, which relies heavily on chlorine bleaching, complains that the European Community’s ecolabel favors non-chlorine production methods which European paper makers have already adopted (Levinson, 1996). In fact, the US Trade Representative has recently filed a bilateral complaint with the EC about their ecolabel (Lynch, 1997).

Will They Be Effective?

Although Green Seal and Scientific Certification Systems appear to have had little impact, their effectiveness has not been adequately studied, nor have any other certification programs. Descriptions of the success or failure of ecolabels have been largely anecdotal.

One key problem with determining the market impacts of ecolabels is that market data is proprietary and not readily available. Moreover it is difficult to separate the effects of the ecolabel from other market dynamics, or even from other efforts of the certification program like education. Finally, there is a strategic interest on the part of ecolabeling programs not to study their effects. As long as the ecolabels are perceived as important, industry will continue to apply for certification and will continue to make product improvements that reduce environmental impact. Any study that found the label to have no effect on market shares would be fatal to the program.

Most studies of the effectiveness of ecolabels have been consumer surveys of awareness and recognition. The assumption is that if consumers are familiar with ecolabels then the label will play at least some role in their purchasing decisions. Moreover, raising consumer awareness of environmental issues is a goal in itself, even if purchasing decisions are not changed. For example, EPA
found that the Bonneville Power Administration’s “Energy Guide” appliance labels raised awareness of energy efficiency but did little to change purchase decisions. (EPA, 1994)

Consumer research shows that certification programs are often misinterpreted, typically being interpreted as generic “seals of approval” regardless of their specific intention. The Good Housekeeping Seal, for example, offers a limited warranty for products that are advertised in the magazine. Nonetheless, in a 1981 survey a majority of respondents thought the seal indicated that the product met federal safety standards or was “better than products without it.” At the same time, less than a third knew the seal offered a warranty—and over half said it did not—even though the seal itself says so. (EPA, 1994)

Ecolabel programs themselves often measure their effectiveness in the continuing interest of marketers. Given the many variables that drive sales – like price, advertising, seasonal variability or news reports – often even marketers don’t know why changes in market share occur. As long as the ecolabel is perceived as effective in some way, marketers will continue to license it. For specialty or niche marketers, certification is especially important. Vision Quest Windelectric, a renewable energy marketer in Alberta, Canada, is seeking certification by Canada’s Environmental Choice Program. “It didn’t occur to us not to get certified,” says Jason Edworthy of Vision Quest (Edworthy, 1997).

Finally, for environmental certification programs, assessing the actual environmental benefits of a label can be difficult. A complete assessment would require comparing the life-cycle impacts of the certified product with competing products, certified or not, and calculating relative environmental improvement based on changes in market share. Furthermore, environmental impacts vary in importance according to location: water use in Arizona is more important than water use in the Midwest, for example. Because both electricity and air pollution are transmitted long distances, the environmental impacts of a power source may be far from the point of use.

Why Do Some Companies Want It?

Companies generally seek third-party environmental certification for pragmatic reasons:

- **Fear**—Companies do not seek certification so much to gain market share, but for fear of losing market share, especially if competitors have been certified.

- **Identity**—Certification is a quick and relatively cheap way to gain an identity as a company that cares about the environment and wants to be trusted by its customers.
Credibility—Because of high-profile prosecution of some marketers in the early 1990s, environmental claims are often seen as “greenwashing.” A third party can confer credibility on claims.

To cover all bases—The environment is a tiebreaker for many consumers choosing among comparable products. And while many people are not willing to pay more for green products, few are opposed to environmental protection.

Procurement standards—Ecolabel certification is sometimes used by institutional and government buyers to prequalify suppliers, based on environmental procurement guidelines.

Carl Frankel, former editor of Green MarketAlert, identifies some additional motivations for companies. He points out that because customers have shown in surveys that they want environmental seals, certification is a “straightforward exercise in ‘customer satisfaction.’” He also suggests that certification allows companies “to establish a product’s environmental merits while sheltering them from the dangers of enforcement activity against misleading claims.” Although companies are not literally released from liability, independent certification may give them a defense if they are targeted by state, local, and federal consumer protection agencies. Finally, Frankel argues for the abstract benefit of environmental certification: “Product certification amounts to a shifting of priorities, to a declaration that the environment is so important that a modest reduction in corporations’ strategic freedom of choice is an acceptable price to pay.” (Paulos and Stoeckle, 1994)

Industry Self-Regulation

Another approach to environmental certification is to have industries offer their own self-regulation. Appliance industry associations like the Air-Conditioning and Refrigeration Institute, the Hydronics Institute, and the Gas Appliance Manufacturers Association all offer testing and certification of the energy efficiency of member firms’ products. These efforts have much higher participation rates than most ecolabeling programs. ARI, for example, verifies the energy use of over 90 percent of US air conditioners, heat pumps, and electric chillers, and publishes the results. (Hickey, 1996)

A few of these groups allow input from outside the industry. The National Fenestration Ratings Council includes manufacturers, state officials, utility representatives, and consumer groups in their process of testing and rating windows. Manufacturers voluntarily submit about 16,000 windows and doors for testing each year, accounting for about half of the market. (Hickey, 1996)

What makes these efforts so much more acceptable to marketers than ecolabels? One obvious difference is that the industry association is run by its members, so the members have a direct say in the rating process. Moreover, the association offers the certification as a service to its members, to provide a degree of
legitimacy to the industry’s claims and to exclude “fly-by-night” operators. Also, by self-certifying, the industry may avoid mandates from the federal government.

Another key difference between these industry group certifications and ecobeling programs is that the energy efficiency of an appliance is a relatively straightforward measurement, compared to the life-cycle environmental impacts of a product. The more difficult the assessment process, the more need there is for subjective judgments, and thus more room for disagreement between a manufacturer and a third-party tester.

A different example of industry self-regulation is the National Advertising Division of the Council of Better Business Bureaus. NAD judges complaints about unfair advertising, and if it agrees with the complaint, attempts to reach a voluntary settlement with the advertiser. If a voluntary settlement cannot be reached, it refers the case to the Federal Trade Commission. NAD has judged more than 3000 complaints since the early 1970s. (EPA, 1993a)

What Does This Mean For Energy?

Already some utilities have gone on record supporting voluntary certification over mandated disclosure. Pacific Gas & Electric testified to the California Energy Commission that disclosure of emissions and fuel mixes would be burdensome to marketers and confusing to customers (Utility Environment Report, 1997).

This echoes arguments made by the Grocery Manufacturers Association against disclosure of the environmental impacts of supermarket goods to government purchasing agents. Like PG&E, GMA argued that suppliers should be able to voluntarily disclose the impacts, and that “the extent to which each of these issues is described would be left up to the supplier of the product.” As the Center for Study of Responsive Law points out, this approach would be no different than the status quo, since there is nothing that prevents manufacturers from making truthful environmental claims (Hickey, 1996).

Interestingly, the Grocery Manufacturers Association also opposes voluntary third-party certification, which PG&E supports. GMA members like Procter and Gamble have expressed reservations about “environmental decisions being made by a third party,” especially by a private group. “We want to see definitions of what is considered environmentally friendly from the government.” (Paulos and Stoeckle, 1994) Those definitions were offered by the FTC’s environmental marketing guidelines, which Procter and Gamble had petitioned for.

The National Council on Competition and the Electric Industry is also looking into whether fuel mix and emissions disclosure should be mandated for all energy suppliers, or apply only to those who make fuel and emission claims for
their products. NCCEI has been funding focus group research in New England, consisting of people who participated in retail pilots. Focus group participants in the Massachusetts retail pilot complained that the profiles they received of fuel mixes were incomplete because they were offered only for the green options. Without being able to see the profiles of all energy products they were unable to make a comparison. (Levy et al., 1997)

NCCEI research also found that energy seals of approval did not fare well in focus groups. Participants were presented with a fictitious “Greenmark” seal from an environmental group. When the seal was presented without accompanying emissions and fuel information, people felt there was not enough information. When a label had emissions and fuel data as well as the Greenmark, the mark was considered to be a marketing ploy. (Levy et al, 1997)

Some suggest that an energy seal of approval might be more credible if it were offered by a government rather than by a private source. A government certification program would have more stable funding and better recognition, would be better able to reflect government policy, and could offer stronger legal protection to manufacturers involved with it. A private label would be more immune to political pressure, but also more dependent on funding.

As far as which approach the public would prefer, the evidence is mixed. A 1990 survey of American shoppers found that 37 percent believed that “environmental groups” were the best source of unbiased information about the environment, compared to eight percent who preferred the government, and five percent who preferred manufacturers. (EPA, 1994) On the other hand, some NCCEI focus group participants preferred to get information about emissions levels from EPA rather than from nonprofit groups or state regulators. There was a belief that EPA would be more experienced and “stricter.” (Levy et al, 1997)

In California various ideas for certification are being discussed, including state certification of renewable suppliers, self-certification by the renewables industry, and starting up a new private nonprofit ecolabeler. The Center for Resource Solutions is now offering their “Green-E” certification to renewable power suppliers (Figure 3). Scientific Certification Systems, long active in the environmental certification field, has recently performed life-cycle analyses of hydroelectric, coal, and gas fired power plants in Europe. Eco-Profiles developed for the coal and gas cogeneration plants show the relative benefits of gas over coal (Figure 4). SCS also offers a certification logo (Figure 5) for gas power production systems performing “in the top 20th percentile for all significant environmental indicators.” (SCS, 1997)
Figure 3: Center for Resource Solutions Green-E certification logo (source: CRS)
Figure 4: Scientific Certification Systems Eco-Profiles for gas and coal power plants
(source: Scientific Certification Systems, 1997)
The Canadian government’s Environmental Choice Program has also branched into power supply, formulating one standard for certification of solar, hydro, wind and sewage or landfill gas facilities and one for sawmill wood waste used for electric generation. ECP’s standard for wood waste requires qualifying facilities to meet all government regulations including emissions levels, to use fluidized-bed combustion, and to submit environmental impact studies. Facilities that qualify are permitted to use the EcoLogo in promotions and advertising. (Environmental Choice Program, 1997a and 1997b)

Finally, Power Smart, formerly the DSM program of BC Hydro, offers labeling for energy-efficient products and consulting services to utilities. They currently certify 2000 products in 55 categories, ranging from appliances to faucets. All products endorsed must be in the top 20 percent of their category for energy efficiency, in addition to meeting environmental guidelines. Public awareness of the program in Canada is 50 percent nationwide and 90 percent in British Columbia (Paulos, 1997). The product label is integrated with DSM programs that Power Smart implements for utilities, using the same graphics. Although they do not certify power sources, it may be a logical extension to the program.

Whether a seal of approval is credible or not, the presence of either mandatory or voluntary disclosure does not preclude the use of ecolabels. Disclosure serves the purpose of creating a level playing field for all suppliers, enabling comparisons, and most importantly, educating the public about the current

Figure 5: Certification logo from Scientific Certification Systems (source: Scientific Certification Systems, 1997)
Lessons for Regulators

energy system and available alternatives. Energy certification programs offer a reward for suppliers who make an extra effort to provide green power, highlighting benefits that may not be understood or noticed by customers. Whether a viable certification program will succeed for energy when it has largely failed for consumer goods remains to be seen.

4 Difficulties of defining environmental impacts

So far most discussions of environmental disclosure in energy marketing have focused on air emissions and fuel mix, ignoring the other environmental impacts of energy production (Holt, 1997a; Moskovitz, et al., 1997). To measure the full environmental impacts of a product, analysts use a procedure called “life-cycle analysis” or LCA. LCA attempts to identify and quantify the impacts of a product from the “cradle to the grave”—from extraction to production, distribution, use, and final disposal.

In the consumer goods debate, life-cycle analysis was considered the ultimate goal for measuring the environmental impacts of products. It was seen as a way to find objective and whole truths about competing products, with superior products singled out and rewarded.

What was found, though, was that the data and analysis requirements of LCA made it difficult to finish a study, let alone to make a definitive statement about impacts. LCA is considered an effective way to find improvements in a manufacturing process, or to locate problem areas, but according to a US representative to the International Standards Organization, “LCA methodology is not currently capable of supporting comparative assertions, that is, allowing public comparisons between products, decisions of environmental preferability, [or] award of eco-label program recognition” (Theissen, 1995).

One significant problem with using LCA to compare environmental impacts is that these impacts are often not comparable by quantitative means. Human health effects, for example, can be compared to habitat destruction only by a moral decision, not by science. Many impacts are difficult to quantify at all, such as habitat decline. A seal-of-approval approach, such as Green Seal, is based on partial life-cycle analysis but ultimately makes an expert but subjective decision about the best products in a category.

Scientific Certification Systems came up with a report-card approach that, in theory, left this comparison process to consumers, based on five categories of environmental impacts. Their “Eco-Profile” presents the results of a life-cycle inventory, the first step of a more comprehensive LCA. In SCS’s approach, environmental burdens are quantified for resource depletion, energy use, air pollution, water pollution, and solid waste categories. The water pollution category, for example, includes total suspended solids, oxygen depleters, and
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toxins, each given in grams or milligrams, in a format that resembles a food nutrition label. (EPA, 1993a)

SCS argues that this approach “provides full disclosure” and illustrates the environmental trade-offs that a simple seal of approval would hide. But for the information to be meaningful consumers must be able to compare two competing products. Because the label is voluntary and SCS has had little success in getting marketers interested, few competing products have been judged.

Using life-cycle analysis for judging the environmental impacts of electricity could encounter many of the same issues as that of consumer goods. Energy suppliers would have to track their environmental impacts back through the extraction of resources, processing and transportation of fuels, the manufacture of equipment, and so on. The inputs and outputs of a power plant and fuel sources are well known, but the environmental impacts may be slightly more difficult to track. But even if the impacts were measured, the results would run into similar problems in a voluntary certification program:

- comparisons between environmental impact categories would be difficult;
- comparisons between marketers may be impossible if few volunteer to be measured; and
- information overload may result for consumers and analysts alike.

On the other hand, despite its imperfections life-cycle analysis gives a much more complete picture of environmental impacts. By including the upstream impacts, for instance, LCA would provide an incentive for fuel suppliers to make improvements. Also, cleaner fossil-fuel plants could be rewarded through certification. SCS’s certification of power plants in Europe allows natural gas plants to be favorably compared to coal cogeneration plants, based on resource use as well as emissions (SCS, 1997).

Southern California Edison opposes a simple disclosure of emissions due to their concerns about the location of emissions. If suppliers report air pollution as a single number (tons of NOx for example), they argue, other important information will be ignored and the results could be “incomplete and misleading” (Walther, 1997). Edison serves the Los Angeles air basin, where power plant emissions are heavily regulated. If they sell power supplied by plants located outside the air basin—with higher emissions—their emissions disclosure may give the impression that the pollution is adding to air quality problems in Los Angeles. A full life-cycle analysis might show lower environmental impacts than a simple reporting of emissions would imply.
Lessons for Regulators

5 Government procurement

A potentially important market for renewable energy and energy-efficiency services will be federal, state, and local governments, and other public institutions, to meet the needs of their own facilities. Many of these entities already have procurement rules encouraging environmentally-preferable products. There is already some interest in green power from some public agencies, but the size of the market remains to be seen.

The federal government has also taken an active role in promoting markets for environmental products, including energy-efficient and renewable technologies. The “Federal Energy and Water Efficiency Executive Order” (Number 12902) directs federal agencies to buy products that are designated “best practice” in their category. For energy efficiency this means products that are in the top 25 percent of their group or that exceed minimum efficiency standards by 10 percent (Hickey, 1996).

Moreover, the Executive Order on “Federal Acquisition, Recycling and Waste Prevention” (Number 12873) directs federal agencies to procure “environmentally preferable” goods and services. EPA’s procurement guidelines enacting the order include pollution prevention as a primary principal in choosing among suppliers.

The Energy Policy Act of 1992 has aggressive requirements to reduce energy demand in federal facilities. The act requires Federal agencies to reduce energy consumption by 20 percent by 2000, compared to 1985 levels. The government’s total energy bill was $8 billion in 1994, a total demand of 1.2 quads for buildings, vehicles, and operations (FEMP Focus, 1996). The Energy Department’s Financing Renewable Energy and Efficiency (FREE) program is implementing energy efficiency improvements in 500,000 government buildings by using shared savings plans financed by contractors.

EPA’s Energy Star program, which certifies office equipment made with specific energy saving features, was given a substantial boost by being included in federal procurement rules. Because the government is such a large customer for office appliances, virtually all manufacturers complied with Energy Star standards. The Energy Star program has been expanded to cover HVAC systems and buildings. EPA also offers the Green Lights program to promote energy-efficient lighting to business, academic, and government institutions.

As of 1993 at least 20 states had procurement rules to promote markets for environmentally preferred products, and 12 states were attempting to reduce energy consumption in buildings.

Green Seal offers an “Environmental Partners Program” for government, nonprofits, and businesses that purchase environmentally-preferred products. These partners get help from Green Seal to define procurement policies, buying
guides, and documentation of environmental impacts. The City of Santa Monica, California, for example, requires vendors to disclose the environmental impacts of their products—unless they are certified by Green Seal (Hickey, 1996). As of late 1995 Green Seal had signed up 124 Partners, including eight government bodies, with a combined purchasing power of $5 billion.

It is easy to imagine similar pollution prevention rules being extended to renewable electricity. The Massachusetts Health and Educational Facilities Authority (HEFA) plans to include green power suppliers in a request for proposals from electricity suppliers. The “PowerOptions” program has signed up more than 200 institutions into a buying cooperative, including the University of Massachusetts, Boston College, Massachusetts Institute of Technology, the New England Aquarium, and the Museum of Fine Arts. “Environmentally sensitive power options,” including tax exempt lending for DSM improvements, will be included in the packages offered to the consortium. HEFA is expected to award a contract worth $100 million to one or more suppliers in the summer or fall of 1997. (Power, 1997)

An example from the opposite coast does not bode as well for procurement of green power. The Association of Bay Area Governments (ABAG) issued a RFP from power suppliers to supply city and county government accounts in Northern California, a 300 MW average load. As part of their requirements they asked power suppliers to make a green-power option available to their government members (Power Markets Week, 1996). Three winning bids were announced this summer to supply part of the load, but none of the three will supply any renewable electricity or DSM services. According to Patty Spangler of ABAG price was the main driver. Only one city government, Berkeley, expressed interest in buying green power (Spangler, 1997).
Conclusion: A Cautionary Tale

From a societal perspective environmental marketing is supposed to reduce the environmental impacts of consumption. By setting up market conditions that allow people to choose products with fewer environmental impacts, marketers are given an incentive to improve their products. Companies will make environmental improvements because people will demand them, according to their interest.

The archetypal self-interested marketer, on the other hand, is primarily interested in making a return on his or her effort, providing an income for all the employees and investors of the firm. Sometimes, a substantial environmental improvement in their product results in increased sales, but many marketers are concerned only with the perception of environmental improvement. If marketers can make customers perceive greater value in their product without expending the effort or cost to actually improve the product (and without breaking the law), they will.

This simplistic description illustrates the fundamental conflict of motives in environmental marketing—private gain versus the public good. One example from the consumer goods world—disposable diapers—stands out as an example of how an environmental issue can be treated and mistreated by marketers. It can serve as a cautionary tale of how the energy industry should and should not approach green marketing.

Disposable diapers

In the late 1980s disposable diapers had unique qualities that made them “a symbol of wasteful society” (Lubbock Avalanche-Journal, 1996). Diaper packages were often large enough to fill shopping carts, and the product was designed to be thrown away after a single, short-lived use, so diapers also quickly filled up a family’s garbage can. Diapers were marketed as a convenience, a way to escape the “drudgery” that parents of the previous generation faced with cloth diapers and pins. At the same time, buyers were being urged to “save the earth” for their children, who were the ones using the wasteful product.

Disposable diapers soon became a lightening rod for environmentally concerned consumers. The impact of diapers on landfills was assumed by the public to be vast. The alternatives of diaper services and home laundering were assumed to be infinitely superior. (Poore, 1992)

The diaper industry had three responses to the problem, with varying success. First, the industry funded life-cycle analysis studies that pointed out the water and fuel saving benefits of disposables, compared to reusable diapers delivered through a diaper service. Although this effort was somewhat successful at
assuaging buyer guilt, the studies were highly controversial, and were countered by studies funded by opposing groups.

Second, a few marketers tried claiming that their disposable diapers were compostable or degradable. Procter and Gamble, maker of Luvs and Pampers, ran full-page newspaper and magazine ads picturing a hand holding some “soil enhancer” and claiming “ninety days ago this was a disposable diaper.” In fact, P&G had supported trials of diaper composting in only ten cities, and only the paper and fecal portions of the diaper were physically compostable, provided they were separated out. P&G was prosecuted by the NYC Department of Consumer Affairs and by the Task Force of ten state attorneys general, and had to pay more than $55,000 in fines. (EPA, 1993b)

Likewise the makers of TenderCare and Bunnies diapers were fined by the Federal Trade Commission and forced to retract claims that their products were degradable. Both had used photodegradable plastic in the outer backing of their diapers, which allowed the plastic to break down into a plastic dust in direct sunlight. Because all diapers were either incinerated or put in landfills, the claim was meaningless. (EPA, 1993b)

Finally, plagued by bad publicity and facing the revival of cloth diaper services, the diaper industry reduced the size of disposable diapers through new, more absorbent and more compact materials. In other words, after trying to win an emotional and symbolic argument with logic, and after trying to oversell the benefits of questionable solutions, they attacked the root of the problem. The smaller size, combined with continued confusion about the life-cycle impacts, essentially ended their public relations problem, while also reducing environmental impacts.

The diaper saga raises a number of questions for marketers and regulators in a restructured utility industry. Does energy share any of the critical environmental features of disposable diapers? What is the correct response to public concern about the environmental impacts of energy production? Should the energy industry fund climate change skeptics, for example, in an attempt to obscure the science, or will they face continuing controversy and a lack of credibility? Will power marketers benefit by stretching the limits of public credulity, or will reputations be soiled in a dangerous backlash?

The risks of greenwashing in the energy field ultimately hinge on how much the public knows and cares about the link between energy and the environment. The power of the marketplace to educate may be an overlooked windfall from competition. Credible marketing, disclosure, and consumer choice may democratize the electric industry. Green marketing alone may not create a sustainable energy system, but if done right, it can help.
References


Central and South West Services. 1996. “Town Meetings on Electricity Issues: Customer Survey Results,” Austin, TX.


Walther, R. 1997. Comments of Southern California Edison to the California Energy Commission, hearing on implementation of AB1890 for renewables, February 27.


## Appendix A: Green Pricing Programs

<table>
<thead>
<tr>
<th>State</th>
<th>Utility Name</th>
<th>Program Name</th>
<th>Status*</th>
<th>Program Technology</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>AZ</td>
<td>Arizona Public Service</td>
<td>Solar Partners</td>
<td>In operation 8/97</td>
<td>41 kw PV (Up to 400-kW)</td>
<td>Residential, $3 per 100 w block (about 20¢/kWh premium), limit 20 blocks</td>
</tr>
<tr>
<td>CA</td>
<td>Sacramento Municipal Utility District</td>
<td>PV Pioneers</td>
<td>In operation</td>
<td>Rooftop PV systems</td>
<td>Utility owned, customer pays $4/mo to have PV on roof but doesn't get power</td>
</tr>
<tr>
<td>CA</td>
<td>Sacramento Municipal Utility District</td>
<td>Greenergy Program (Renewable energy option)</td>
<td>In operation 6/97</td>
<td>Mixed renewables</td>
<td>Ranging from 0.5¢/kWh to 24¢/kWh</td>
</tr>
<tr>
<td>CA</td>
<td>Sacramento Municipal Utility District</td>
<td>Community Solar Program</td>
<td>In operation 6/97</td>
<td>PV</td>
<td>1¢ to 24¢/kWh contribution to fund PV at community sites</td>
</tr>
<tr>
<td>CO</td>
<td>Public Service Company of Colorado</td>
<td>Round Up for Renewables</td>
<td>In operation 1995</td>
<td>Various (mostly off grid PV)</td>
<td>10,000 participants, $53,000 per year</td>
</tr>
<tr>
<td>CO</td>
<td>Public Service Company of Colorado</td>
<td>Renewable Energy Trust</td>
<td>In operation 1996</td>
<td>Various renewable energy and public goods projects</td>
<td>Donations, 5500 participants, $102,000 per year</td>
</tr>
<tr>
<td>CO</td>
<td>Public Service Company of Colorado</td>
<td>Renewables for Schools</td>
<td>In operation 1997</td>
<td>PV</td>
<td></td>
</tr>
<tr>
<td>CO</td>
<td>Public Service Company of Colorado</td>
<td>WindSource</td>
<td>In operation 3/97</td>
<td>10-MW wind project</td>
<td>100 kW blocks, 800 subscribers getting 2-2.5 blocks each</td>
</tr>
<tr>
<td>CO</td>
<td>Public Service Company of Colorado</td>
<td>SolarSource</td>
<td>In operation 1997</td>
<td>customer-sited PV</td>
<td>20 installation pilot program</td>
</tr>
<tr>
<td>CO</td>
<td>Fort Collins Light &amp; Power</td>
<td>Wind Power Pilot Program</td>
<td>In development</td>
<td>Wind power (two 350 kW turbines)</td>
<td>650 customers</td>
</tr>
<tr>
<td>CO</td>
<td>Holy Cross Electric Cooperative</td>
<td>Wind Power Program</td>
<td>In development</td>
<td>Wind Power from Public Service Company</td>
<td>Goal to sell 1800 blocks of 100 kWh</td>
</tr>
<tr>
<td>CO</td>
<td>Aspen Municipal Electric System</td>
<td>Green Pricing Program</td>
<td>Planning</td>
<td>Wind power</td>
<td></td>
</tr>
<tr>
<td>FL</td>
<td>Gainesville Regional Utilities</td>
<td>Green Pricing</td>
<td>In operation</td>
<td>10-kW PV system</td>
<td>One time or monthly donations</td>
</tr>
<tr>
<td>FL</td>
<td>Gulf Power Company</td>
<td>Solar for Schools</td>
<td>In operation</td>
<td>PV systems</td>
<td></td>
</tr>
<tr>
<td>FL</td>
<td>Florida Power &amp; Light</td>
<td>Green Pricing</td>
<td>Pending</td>
<td>10 kW PV systems</td>
<td></td>
</tr>
<tr>
<td>FL</td>
<td>City of Tallahassee</td>
<td>PV Green Pricing</td>
<td>Planning</td>
<td>10 kW PV systems</td>
<td></td>
</tr>
<tr>
<td>State</td>
<td>Utility Name</td>
<td>Program Name</td>
<td>Notes</td>
<td>Status</td>
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</tr>
<tr>
<td>HI</td>
<td>Hawaiian Electric</td>
<td>Sun Power for Schools</td>
<td>1,200 donations so far</td>
<td>Pending</td>
<td></td>
</tr>
<tr>
<td>MI</td>
<td>Detroit Edison</td>
<td>Solar Current</td>
<td>In operation</td>
<td>In operation</td>
<td></td>
</tr>
<tr>
<td>MI</td>
<td>Traverse City Light and Power</td>
<td>Green Pricing</td>
<td></td>
<td>In operation</td>
<td></td>
</tr>
<tr>
<td>MN</td>
<td>Northern States Power</td>
<td>EnergyWise Solar Advantage</td>
<td></td>
<td>In operation</td>
<td></td>
</tr>
<tr>
<td>MN</td>
<td>Cooperative Power Association</td>
<td>Walkspring</td>
<td></td>
<td>In development</td>
<td></td>
</tr>
<tr>
<td>MN</td>
<td>Dakota Electric Association</td>
<td>Renewable Energy Service Tariff</td>
<td></td>
<td>In development</td>
<td></td>
</tr>
<tr>
<td>NY</td>
<td>New York State Gas and Electric Company</td>
<td>PV Friendly Pricing</td>
<td></td>
<td>In operation</td>
<td></td>
</tr>
<tr>
<td>NY</td>
<td>Nitagard Mohawk</td>
<td>GreenChoice Program</td>
<td></td>
<td>On hold</td>
<td></td>
</tr>
<tr>
<td>OR</td>
<td>Bonneville Power Administration</td>
<td>Wholesale Green Rates</td>
<td></td>
<td>In development</td>
<td></td>
</tr>
<tr>
<td>OR</td>
<td>Portland General Electric Company</td>
<td>Wholesale and industrial green tariff</td>
<td></td>
<td>In operation</td>
<td></td>
</tr>
<tr>
<td>State</td>
<td>Utility Name</td>
<td>Program Name</td>
<td>Status*</td>
<td>Program Technology</td>
<td>Notes</td>
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</tr>
<tr>
<td>TX</td>
<td>City of Austin</td>
<td>Solar Explorer</td>
<td>In operation</td>
<td>PV systems</td>
<td>$7 per month for 100 W capacity, 50 participants as of May 1997</td>
</tr>
<tr>
<td>TX</td>
<td>Central and South West</td>
<td>Green Power Tariff</td>
<td>Pending</td>
<td>Up to 50 MW of wind and 4 kW PV</td>
<td>Various subscription levels</td>
</tr>
<tr>
<td>WI</td>
<td>Wisconsin Electric Power Company</td>
<td>Green Tariff</td>
<td>In operation</td>
<td>5 MW of biomass and hydro power. 1997 supply; new and existing hydro, landfill gas, biomass, 3 MW initially with increase to 5 MW by June 1997.</td>
<td>over 5000 participants as of May 1997</td>
</tr>
<tr>
<td>WI</td>
<td>Wisconsin Public Service</td>
<td>Solar Wise for School</td>
<td>In operation</td>
<td>Rooftop PV at public schools</td>
<td>Monthly donations, 2600 participants, over $20,000 per year, three 12 kW installations in 1996</td>
</tr>
</tbody>
</table>

* Status:
  - In operation - A renewable energy facility is operating and providing electricity under a program.
  - In development - The utility has committed to the development of a program. Recruitment of customers is either on-going or completed. The construction of a project(s) or procurement of resources may be in progress.
  - Pending - The utility has announced its intention to develop a program but has not initiated customer recruitment activities.
  - Planning - The utility is in the initial stages of investigating program feasibility.

Sources: Ed Holt, Green Pricing Resource Guide (Holt, 1997b); DOE Green Power Network; Energy Center of Wisconsin
# Appendix B: Green Offerings in New England Retail Pilots

<table>
<thead>
<tr>
<th>Product</th>
<th>Power Source and Price</th>
<th>Market Share (percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>New Hampshire</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Central Vermont Public Service</td>
<td>“Clean, renewable hydropower”</td>
<td>2.4 - 3.47¢</td>
</tr>
<tr>
<td></td>
<td></td>
<td>39% hydro, 36% nuclear, 12% oil, 8% coal, and 5% other</td>
</tr>
<tr>
<td>Freedom... XENERGY</td>
<td>Installation and financing of energy-efficient equipment, “providers of environmentally benign power - or ‘green power’”</td>
<td>2.3 - 2.69¢</td>
</tr>
<tr>
<td></td>
<td></td>
<td>coal, hydro, gas, and 3-5% nuclear</td>
</tr>
<tr>
<td>Granite State Electric</td>
<td>Free bird feeder (“licensed by the Audubon Society”), home energy analysis, a booklet on conserving energy, and a catalog of energy saving products.</td>
<td>2.37 - 2.57¢</td>
</tr>
<tr>
<td></td>
<td></td>
<td>38% coal, 22% gas, 14% nuclear, 10% oil, 10% hydro, and 6% ‘renewables’.</td>
</tr>
<tr>
<td>Green Mountain Energy Partners</td>
<td>Free spruce tree seedling, “eco-credits” for conservation</td>
<td>2.11 - 2.9¢</td>
</tr>
<tr>
<td></td>
<td></td>
<td>97% hydro power, 1.5% nuclear, and 1.5% oil</td>
</tr>
<tr>
<td>Working assets</td>
<td>1% of gross revenues donated to local environmental groups</td>
<td>3.5¢</td>
</tr>
<tr>
<td></td>
<td></td>
<td>“‘Nuclear-free, coal-free and Hydro Quebec free”</td>
</tr>
<tr>
<td>Northfield Mountain Energy (Northeast Utilities)</td>
<td>coupons, energy “analysis,” light bulbs, doormats, and low-flow shower head</td>
<td>2.5 - 3.11¢</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pumped storage hydropower. (NU’s sources of energy were 52% nuclear, 13% IPP, 13% purchases, 10% coal, 5% gas, 4% oil, and 3% hydro)</td>
</tr>
<tr>
<td><strong>Massachusetts</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AllEnergy</td>
<td>Retirement of SOx credits, community-based solar power</td>
<td>3.01-3.41¢, standard NEES mix</td>
</tr>
<tr>
<td>Working Assets</td>
<td>1% of gross revenues donated to local enviro groups, $25 gift certificate for efficient products after 6 mos.</td>
<td>3.35¢, no nuclear, coal or Hydro-Quebec</td>
</tr>
<tr>
<td>Enova Energy</td>
<td>energy/environmental survey, quarterly energy use reports and rewards, matched donations to environmental projects, a raffle for electric cars</td>
<td>2.5¢, mixed power from New England Power Pool</td>
</tr>
<tr>
<td>Northfield Mountain Energy</td>
<td>$30 worth of energy efficiency products, a mail-in home energy survey, donations</td>
<td>2.6¢, 100% hydropower</td>
</tr>
</tbody>
</table>