Green Pricing Experience and Lessons Learned

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Seven electric utilities in the United States offer a green pricing program, an optional product or service that customers choose if they wish to increase their use of renewable energy resources. Some two dozen additional utilities are considering or are planning to offer this option. The multiple approaches used and being considered recognize that green pricing is still in an experimental stage of development. The seven operating programs offer a green tariff for extra renewables, fixed monthly fees, and the opportunity to contribute to a tax-deductible fund. The results, in terms of participation levels, are mixed. This experience suggests some guidelines for successful programs.

INTRODUCTION

When it was first described in the electric utility literature, green pricing was intended to help commercialize renewable technologies and improve environmental quality by gradually displacing older and dirtier power plants (Moskovitz 1992, 1993). Market research into customer willingness to pay extra for cleaner renewable energy also supported a customer satisfaction rationale.

Since then there has been a sea change in the electric utility industry. Competition is now integral to strategic planning. The ability of green pricing to maintain or attract customers is being considered a major rationale. At the same time it is generally recognized that the segment of customers truly interested in buying renewable power is a niche market, although this could change over time as consumers become accustomed to choosing electricity supplier and become more aware of the environmental implications of their choices.

The first three green pricing programs were introduced to utility customers in 1993. Four more programs have been brought to the market in the United States. By the end of 1996, two or three more will likely be offered in the United States and Canada.

An additional two dozen or so utilities and non-utility suppliers are investigating or planning green pricing programs or products. This growth in interest over the last year or two has spawned a number of different approaches or concepts, all relating to the provision of green power, and may be categorized in the following manner.

Green tariff. This is the concept originally introduced as green pricing. Customers who choose to buy additional renewable energy pay an incremental cents per kWh premium. This approach is used by Traverse City Light & Power in Michigan to pay the increment above avoided cost of a 600 kW wind turbine. Variants on this approach include offering a specific increment of energy, say 200 kWh, for a for a fixed fee (the incremental rate times the number of kWh offered). In another variant, Detroit Edison charges for increments of capacity in a 28.4 kW photovoltaic demonstration, and then a lower-than-standard energy charge for the output from the PV system. The key feature of the green tariff is that the price charged is dependent on the amount of renewable energy (or capacity) being purchased.

Fixed monthly payments. The price charged is unrelated to the amount of energy produced or used. Sacramento Municipal Utility District charges $4 per month to become a ‘‘PV Pioneer.’’ Niagara Mohawk Power Corp. charged its customers $6 per month for new renewable resources to be selected later.

Contribution or donation. This approach is distinguished from the fixed monthly payment in that the customer may nominate the amount contributed. Public Service Company of Colorado and Gainesville Regional Utilities pioneered this approach in October 1993. Customers may have an amount added to their monthly bills or they may make an occasional donation. Wisconsin Public Service Corp. recently introduced SolarWise for Schools which offers customers three amounts they may choose to pay, on a regular basis added to their bills. There are different tactics that may be used to encourage participation. For example, Portland General Electric tested an affinity credit card, debit card and certificate of deposit in which a small percent from each was deposited in a fund for wind development (*Green Pricing Newsletter* 1995).

Green shares. This is a contribution that is packaged to feel like a value-added product. CitiPower in Melbourne, Australia, is selling certificates for $10 apiece, but they are not true equity shares and have no market value once purchased. However, companies which purchase them may qualify for greenhouse gas emission reduction credits in the future (Griffiths 1995).

Green equity. Wind park developers in Germany have used consumer equity financing for a portion of project finance (ten Brink 1995). This is also an option being considered by Ontario Hydro (Kelly & Boone 1996).

Green wheeling. Another option being considered by Ontario Hydro is a pilot in which the energy from a specific, tangible project would be used to serve a particular community (Kelly & Boone 1996).

Shared savings. Large or wholesale customers who are able to negotiate lower prices due to surplus capacity or low gas prices may choose to give some of the savings back to the supplier in return for an increased share of renewables. The City of Portland, Oregon negotiated this outcome with Portland General Electric, and Salem Electric Co-operative has arranged a similar deal with the Bonneville Power Administration (SREN 1995, 1996).

These categories and examples illustrate the variety of activities that are being conducted and considered under the heading of green pricing. One feature that is common to all approaches, and which is a defining element of green pricing in my view, is that the product or service is optional. They all give customers the choice of whether or not to purchase or participate. A second common feature is that all offer new renewable projects. Again, in this author's view, this is a defining element. Green pricing should result in environmental improvement through the dispatch of additional renewables. It should be noted, however, that some utilities would consider marketing existing hydro-electricity that is already being dispatched, as green pricing.

There are other criteria that some consider must be met for a program to be considered green pricing, but opinions vary. These will be described as successful elements, rather than defining elements, in a later section of this paper.

Scope

This paper summarizes each of the seven green pricing programs that are in operation in the United States. One of these has been put on hold. In addition to the seven described, one other program was a limited market test and is described elsewhere in the ACEEE Summer Study Proceedings (Weijo & Boleyn 1996). This paper does not describe market simulations, which have been reported elsewhere (Byrnes et al. 1995a, 1995b) nor does it include green pricing programs overseas, notably in the Netherlands and in Australia. It also does not describe negotiated wholesale transactions for an increased share of green power (SREN 1995, 1996).

PROGRAM DESCRIPTIONS

Traverse City Light and Power

Traverse City Light and Power (TCL&P) is a municipally-owned utility of 8,000 customers (6,800 residential) located in Michigan. There was an interest in developing a local wind resource but the utility was not adding capacity. Green pricing was seen as a way to develop a project without increasing costs to all ratepayers.

The TCL&P program is a green tariff, charging 1.58 cents/kWh on top of an average rate of 6.8 cents/kWh, a premium of 23 percent. This pushes the envelope for U.S. programs in terms of the price premium. Participants will pay $7.58 more per month based on average residential monthly electricity use (Smiley 1995).

The price premium does not cover the actual cost premium because the project receives some subsidies from the state and federal governments. At the same time however the estimated benefits do not include any capacity credit for the project, and the site selected is a moderate class 3 wind site. A better site would have improved performance and lowered costs.

TCL&P estimated it needed about 200 customers to pay for the incremental cost of the wind energy if participants paid the premium for 100 percent of their energy use. To obtain these participants, TCL&P initially used news releases, display advertisements and direct mail targeted to a local environmental group. Over three months, this resulted in achieving about half of the 200 goal. Next a solicitation and application were mailed directly to all commercial and residential customers. This resulted in bringing applications up to 248—about 3.1 percent of all customers. The extra customers were placed on a waiting list.

After customers were signed up, TCL&P made commitments to the turbine manufacturer. During development and installation, the utility fronted the project costs. Participants do not begin paying until the turbine starts to produce power in 1996.

Residential customers who signed up for the green tariff were required to commit for three years; commercial customers agreed to stay with the tariff for ten years. The reason for the required commitment is to ensure some stability in payments; if a customer drops out at the end of the contract period, the utility must find a replacement. The reason for the difference in length of commitment is that the loss of a

commercial customer would have a bigger impact than the loss of a smaller residential consumer. Nevertheless, 24 commercial customers subscribed (Smiley 1996).

The agreement is in the form of an application card that is short and simple. The application which customers sign says simply, ''I want to sign up. . .''

The TCL&P green rate looks like a success for several reasons. As a rate option, it is easy to understand. People understand what they are buying: energy from wind, in the first instance, and cleaner air, in the second. They also get another benefit: Any upwards fuel cost adjustments made by the utility are not applied to those on the green rate.

There are other, non-product attributes that help the program. A small local utility is closer to its customers, which adds credibility. The project is local and visible which adds to tangibility of the product. This also makes it easier to do community-based marketing. Not a little local pride helps encourage customers to sign up.

Detroit Edison Company

In September 1995 Detroit Edison began offering a green pricing option to its customers. Called SolarCurrents, it offers customers the opportunity to buy a share of capacity of a 28.4 kW photovoltaic system installed at company facilities near Ann Arbor. For $7.30 per month, residential customers may purchase 100 watt increments of capacity. In addition, customers pay 4 cents per kWh for the energy output of their share, estimated to be 140 kWh per year. Because this displaces energy purchases at the usual price of approximately 10 cents per kWh, the net monthly cost is estimated to be $6.59 (Stevens 1995).

The PV system was commissioned in May 1996, and cost $250,000, of which $113,600 is covered by a federal grant awarded under the Utility Photovoltaic Group's Team-Up solicitation (Detroit Edison 1995).

Charges for the solar energy service and kilowatt-hours produced are itemized on the participant's regular electric bill. It shows the customer's total electricity consumption and the amount produced by solar energy.

Residential customers who participate must sign a contract for a period of two years, which will be extended automatically after that unless the customer requests in writing that the agreement be terminated. Commercial customers may also participate. Three key differences for commercial customers are that they must purchase capacity in increments of 500 watts, their energy rate for the solar power is 3 cents instead of 4 cents per kWh and their contract term is ten years. Thus their monthly charge is $36.50, less their savings on the energy produced by their share of the PV system.

Detroit Edison's goal was to subscribe the full project capacity. It achieved this goal in February 1996 after doing direct mail to a cross-section of customers. The purpose of this approach, rather than targeting market segments most likely to participate, was to confirm prior market research that was based on a random sample. About 200 customers signed up for a response rate of about 0.3 percent (Stevens 1995).

The response rate might have been higher but for three factors. By selling capacity, SolarCurrents may be more difficult to understand than an energy tariff. Second, the customer commitment is a two page contract which is in essence a rate schedule or tariff. It contains some technical language regarding current, phase, voltage and power supply cost recovery factor which some customers may find intimidating. Finally, the marketing effort, as noted, was not targeted to those most likely to participate.

Sacramento Municipal Utility District

In 1993 SMUD established a partnership with customers willing to support the early adoption of photovoltaic (PV) technology. Under the PV Pioneers Project, participating residential customers initially agreed to pay $6 per month (about a 15 percent premium) on their utility bills for the PV-generated electricity. Participating customers also agree to provide the roof area to install the PV systems. SMUD purchases, owns, installs and operates the systems, which are connected on the utility's side of the meter (Osborn 1994). Because of roof area constraints, the PV systems are not all sized at 4 kW, and SMUD began charging a monthly premium of $4 for the smaller 3.5 kW systems. When PV Pioneers began comparing notes about their fees, SMUD revised its program to charge all participants $4 per month which is about 10 to 15 percent of average residential bills (Osborne 1996, Osborn & Collier 1996). This price premium does not cover the full cost premium. Additional SMUD and U.S. DOE funds help pay for the incremental costs of the systems.

Participating customers get the clean, renewable PV energy generated from their rooftops. They also receive price protection for that portion of their energy use supplied by the PV systems. The price premium will not rise until the standard retail rate increases by 15 percent, after which it will be the same as the standard rate. For its part, SMUD gains experience in the specification, installation, operation and maintenance of residential PV systems.

The process of selection of the PV Pioneers involves the following steps.

- Customer submits an application or volunteers through a telemarketing campaign.
- Applications are pre-screened by phone.
- Qualified volunteer homes are visited for evaluation.
- Evaluation criteria include roof orientation, size and material; insolation; service voltage; distribution benefits; geographic diversity; home ownership; and customer willingness to sign agreement.
- Participants are selected from the qualified applicants.

SMUD has reported two marketing approaches (Osborn 1994.) One, an initial telemarketing effort, resulted in 300 customers (29 percent) volunteering and qualifying at the $6 per month premium. Twenty-five percent qualified but declined to participate, and 46 percent did not qualify because they did not own their home or because of roof type, age, shading or orientation. Presumably some of these were willing to participate, but 29 percent both offering and qualifying is impressive.

The second approach, ''a very low level of public information effort'' including media, resulted in several thousand customers contacting SMUD with interest in participating; over 600 passed the initial telephone screening and agreed to pay the 15 percent premium.

The strengths of SMUD's program are its managed approach to accelerated commercialization of PV (sustained orderly development), the close and tangible connection between the renewable resource and the consumer, and its rate stabilization feature. However this close and tangible connection is more difficult to achieve with renewables that cannot be located at customer-owned sites for their exclusive use. Also, because participation is capped at about 100 customers per year, it is hard to tell what percentage of customers would be willing to pay the premium, but clearly it is far more than the number of systems SMUD is prepared to install at this time.

Niagara Mohawk Power Corporation

The New York Public Service Commission approved Niagara Mohawk Power Corporation's (NMPC) GreenChoice program in May 1995. Its goals are customer choice and satisfaction, environmental benefits, and the development of competitive product skills. NMPC consciously designed the program to be promoted as a product for purchase rather than a voluntary donation. For residential customers only, the program charges a fixed price of $6 per month. There is no contract or commitment required of the customer, as he or she may discontinue purchasing the product at any time. However, the renewable resource project is not specified. NMPC planned to issue a green RFP to select a project that matched the money available.

As with other green pricing examples, NMPC will use the price premium to pay the incremental cost above the utility's avoided cost. All utility ratepayers will pay up to the avoided cost of the renewable projects. The program is intended to be self-sustaining without any subsidies (although start-up costs were allocated from shareholder funds). The monthly fee will be used to pay for administrative costs and at least 5/6 of the remainder will be spent on renewable energy projects. Up to 1/6 may be spent on tree planting. Tree planting is part of the program so that near-term tangible actions will be undertaken while enough money is accumulating to fund one or more renewable projects.

In response to a direct mail solicitation, 0.6 percent of customers targeted signed up (Ingersoll 1996). In April 1996 NMPC put program implementation on hold for several reasons: possible confusion of GreenChoice with PowerChoice, NMPC's restructuring proposal; their 1996 emergency and 1997 rate cases; a poor New York state economy; and customer satisfaction issues. These factors, together with high rates (one-quarter of NMPC customers are in arrears) have led to public trust and credibility problems. Also, shareholders were paying for program marketing at the same time that NMPC did not pay a dividend (*Green Pricing Newsletter* 1996). NMPC has refunded the money paid by participants.

One strength of NMPC's program is the ease of entry and exit for customers. A weakness of the program design is that the renewable energy project is not selected. This makes it more difficult to market a tangible product.

Public Service Company of Colorado

Public Service Company of Colorado (PSCo) was one of the earliest utilities in the US to offer a customer option to support extra renewable energy, beginning in October, 1993. Its program, now named the Renewable Energy Trust, is promoted as a contribution or donation to fund renewable projects in Colorado. Utility customers make tax deductible donations to a trust fund in one of four ways: (1) a one-time, lump-sum contribution; (2) a pledge of a monthly contribution that appears on their utility bill; (3) the ''Round-Up'' option in which their bill is rounded up to the next whole dollar; or (4) a combination of the above.

Projects are selected and built as funds become available. The funds are used for demonstrations, not research and development, and for projects that PSCo would not do without the voluntary contributions. Some 29 projects have been built, most of them solar electric (PV), some solar thermal and some geothermal. Most projects have additional part

funding from project sponsors or public agencies. Some are grid-connected and others are not.

As of March 1995, the Renewable Energy Trust had 7,300 participants out of about 900,000 residential customers. The average one-time customer contribution was about $15, and the average monthly pledge was $1.73. The program was slowly gaining participants, gaining five customers per month while losing three customers per month (Henrichs 1995).

In August 1995 PSCo added the bill round-up option which has made a big difference to the program. PSCo ended 1995 with $113,000, and $110,000 of that came from customers who accepted the round-up option. Further, the number of participants jumped to 12,000–13,000, about 1.4 percent of residential customers (Henrichs 1996).

It appears that customers are responding because the amount donated is small, and because they like the convenience of even-dollar utility bills.

In 1995 PSCo spent $100,000 on marketing the program. This included bill inserts, direct mail to targeted segments, articles in targeted publications including newsletters of environmental organizations, print ads and advertising on the Public Broadcasting System and National Public Radio (Henrichs 1996). Awareness of the program is still low (about 4 percent), although the participation level, at 1.4 percent of all residential customers, is respectable for a new concept. To increase awareness and participation through more promotion would add to the expense, which in this case is paid by all ratepayers rather than from the Trust. This illustrates a classic chicken-and-egg dilemma: How to raise awareness and increase participation when marketing and promotion budgets are limited.

Gainesville Regional Utilities

At the same time as PSCo, Gainesville Regional Utilities (GRU), a municipal utility in Florida, began offering a similar program. The demonstration project is a 10 kW (expandable to 20 kW) PV system to be installed at the GRU dispatch center. In addition to donations from customers, federal and state funds, as well as GRU ratepayer funds, are used to pay for the installation.

The program was launched in October 1993. Local papers gave the project favorable coverage. Customers may make a one-time contribution, or they may elect an amount that is added as a line item on their monthly bills. If customers agree to donate $4 or more per month, or if they make a one-time contribution of $50 or more, their names will be placed on a plaque that will be mounted in the lobby of the GRU administration building.

To enlist support, a card was initially mailed to all GRU customers which they could sign and return. Now the card is available at several locations and upon customer request. A description of the solar program is included in a GRU Customer Guide that is mailed to all customers each year. The marketing is low key, and none of the donated funds are used for marketing.

Out of 67,000 mostly residential customers, cumulative participation to February 1996 is 657 customers, or about one percent. Donations have amounted to about $40,000. This money is being held and is drawing interest. About 63 percent of participants selected the monthly donation, and the average amount donated using this option is $3.27, just about the same as the market research suggested. About 37 percent of participants have opted for the one-time donation which averages $40.25 (Westfall 1996).

Wisconsin Public Service Corporation

In February 1996 Wisconsin Public Service (WPS) launched SolarWise for Schools. Market research had determined that 9 percent of residential customers were willing to pay $1.85 per month, based on market simulation of a telephone solicitation followed by a mailed solicitation. Five percent of customers indicated a willingness-to-pay $1.41 per month when only a mailed solicitation was used (Rahimzadeh 1996a). SolarWise is designed to respond to that customer interest in renewable sources of electric generation.

The goal of SolarWise is to install a 12 kW photovoltaic system on every feasible high school rooftop in WPS's service territory. The schools receive the electricity produced (estimated value of $2,100 per year per school); a curriculum on solar energy and PV systems; performance data on each system for students to analyze; and a utility home page that will feature student projects and which is linked to in-depth solar information resources on the world wide web.

SolarWise is a contribution program in which customers are given three donation options: $4, $2 or $1 per month. A contribution reminder is shown on the bill. WPS ratepayers and federal funds also support the projects. Contributions are tax-deductible. Customers enroll by filling out a simple form that includes name, address and phone number; they may withdraw from the program at any time by calling WPS.

Marketing is targeted to segments that were identified by a marketing database as having a willingness-to-pay that is more than two times higher than other customer segments. In addition, a bill stuffer was included in all residential customer bills. Participation as of mid-May, 1996, after just one exposure to the program, has resulted in an annualized contribution of about $16,000 from 779 participants contributing an average of $1.71 per month (Rahimzadeh 1996b).

Three additional promotional exposures are scheduled for this year which should increase participation.

This program is capitalizing on the visibility of schools and their importance in providing a community focus. Other strengths include the program's targeted marketing, and its simplicity and ease of entry and exit.

RESULTS

There are a number of criteria that could be used to assess and compare program results, including total revenue, capacity installed, and customer participation levels.

Table 1 shows the percentage of customers participating relative to the monthly premium. Care must be taken to define these terms. For example, the percentage of customers participating may be of all customers, of all residential customers, or the ''hit rates'' from a specific marketing effort. The percentage may also represent cumulative participation or an annual participation average. Care has been taken to make these distinctions. The monthly premium represents either the average contribution (in the case of a donation program), the monthly premium for an average customer (e.g., based on typical energy use), or the actual monthly fee for participation (if a fixed fee) or for a unit of participation (where a unit might be 100 Watts of capacity).

Table 1. *Price Premiums and Participation Levels*

Sponsor	Price Premium (dollars/ month)	Participation (percentage)
Public Service Co. of Colorado	$1.73	1.4% [a]
Wisconsin Public Service Corp.	1.85 [b]	9.0 [b]
Gainesville Regional Utilities	3.27	1.0 [c]
Sacramento Municipal Utilities District	6.00	29.0 [d]
Niagara Mohawk Power Corp.	6.00	0.6 [c]
Detroit Edison Company	6.59	0.3 [f]
Traverse City Light & Power	7.58	3.1 [c]

Sources: Henrichs 1996; Rahimzadeh 1996a; Westfall 1996; Osborn 1994; Ingersoll 1996; Stevens 1995; Smiley 1994, 1996.

Notes: [a]Of all residential customers. [b]Based on market simulation; actual price premium is $1.71 but participation not yet known. [c]Of all customers. [d]Based on telemarketing effort. [e]Based on one targeted mailing. [f]Based on non-targeted mailings.

It is not easy to discern a clear pattern from Table 1. Nor is it possible to say a program's success, as measured by customer participation level, is dependent on the size of the premium charged. This is because many other factors may affect participation levels, such as program design, ease of participation, customer awareness and marketing effort, and other features bundled with the renewable energy supply that create even more value.

LESSONS LEARNED

If the price premium is not the only determinant of program success, what else might be key? In this section, I suggest a top ten list of elements that I believe are important to the success of a green pricing offer. These suggestions are based on a review of utility market research, a study of the programs described above and research into other concepts being considered.

Quality. Good quality programs:

- Require careful market research. Because most attitude surveys show strong support for the environment generally, and a willingness to pay more for renewable energy in particular (Farhar & Houston 1996), it is probably more productive to focus market research on customer preferences about program or product design.

- Incorporate added-value features. Added value may be provided by protection against rate increases, or early-adopter status of a PV system on your roof, or discounts on related products or services.

- Position the offer as a competitive product rather than a donation. The evidence on this point is not clear, but if increased competition among suppliers is in our future, then developing a value-added product offers the potential for greater return.

Credibility. The credibility of both the sponsor and the product or program affect consumer willingness to buy. For the sponsor, the external environment can be important. Rate increases, nuclear power plant operational problems, massive downsizing, major mergers, all can influence consumer perceptions of a sponsoring utility. For the product, do the renewable projects add new renewables to the system, and are they truly green in the eyes of consumers? An

independent green board of advisors or environmental endorsements can help.

Simplicity. An attractive consumer option is easy to understand—technical terms must be explained—and entry and exit from the program is as simple as a phone call or at most a short registration card. A required customer commitment, if necessary because the sponsor is unwilling to assume risk, must not be so onerous as to deter participation.

Marketability. At this stage in customer choice and market development, green pricing is for a niche market. Segmentation and targeted marketing are important. And just because customers say they are willing to pay more for renewables, does not mean that they will beat down doors to buy when green power is offered. Promotion is essential, and like retail product or service advertisements, repeated exposure is necessary for success. One press release or bill stuffer is not enough (Rahimzadeh 1996b).

Tangibility. Although customers cannot see green electrons, renewable energy offered from projects that are specific as to resource, technology and site make them more real. Specificity creates a sense that customers could go out and ''kick the tires'' of what they are buying. Also, bundling features that add private value (in addition to the public goods benefit of a cleaner environment) make the product more tangible.

Visibility. Visibility reinforces tangibility and can be achieved several ways. Locating a renewable project close to the potential market is desirable though not always possible. If the project is located specifically to provide significant transmission or distribution system benefits, the potential market may be close at hand. Second, a bigger project will attract more attention. The TCL&P wind turbine can be seen from most parts of Traverse City. Larger installed capacity also makes a bigger impression. Finally, multiple sites makes the project visible to more customers. SMUD, WPS and PSCo have taken this approach.

Community. Relating to visibility, project location can provide a community focus. Community cohesion and pride in ''our'' renewable project can support community-based marketing, which has been successful (for DSM programs) in achieving higher participation levels. The program sponsor does not have to be small like TCL&P to be successful with a community approach as SMUD demonstrates. Nor must a utility be customer-owned. A large IOU could work with a small community and focus marketing efforts there for a project located nearby.

Strategy. Utility sponsors in particular must have a strategy for how green pricing fits into its long range plans and future restructuring directions. This requires a leader with a vision (top management support is key). These organizational plans will help determine how best to position the green offer—as a competitive strategy, a customer service, regulatory appeasement or technology experience.

Synergy. Weijo and Boleyn (1996) have suggested that utilities should explore developing and marketing a full line of green services and products to appeal to different market segments. This variety should help reinforce awareness of all options, just as call waiting, call forwarding, caller ID, etc. raise awareness of telephony choices.

Tenacity. Success will require perseverance and a long term perspective to take green pricing from a niche market to mainstream. It will require public education about energy resources and their environmental impacts, outreach to environmental and other potentially allied groups, and follow-through on marketing plans. Low levels of participation in the early years, even less than one percent, may be realistic for the introduction of new products that are unfamiliar to consumers.

These top ten elements do not constitute a precise formula for green pricing success. The absence of any one of these is not necessarily a fatal flaw, but their combination in the strongest possible way will contribute to increased probability of success.

CONCLUSIONS

Review of seven operating green pricing programs shows a variety of approaches yielding mixed results in terms of participation levels. Most of the programs have a small percentage participation which indicates that at this time renewable energy appeals to a niche market. However many factors relating to program design, tangibility and visibility of the product, marketing approach, and credibility of the offer certainly affect green pricing success. These programs may be viewed as experiments to find the best combination of elements that yields strong results. It may take a decade or more, but with time, a growing awareness on the part of consumers about electric supply choice and the environmental implications of choice, as well as awareness about the offer of green energy services, holds the potential to transform the market for new energy supply.

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