



Public RENEWABLES PARTNERSHIP

GREEN PRICING AT PUBLIC UTILITIES:

A HOW-TO GUIDE
BASED ON LESSONS LEARNED TO DATE

Dan Lieberman
Center for Resource Solutions
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About CRS

The Center for Resource Solutions (CRS) is a non-profit organization focused on energy and environmental issues. CRS is based in San Francisco and administers a number of programs in the U.S. and internationally that promote renewable resources, encourage energy efficiency, and help speed the growth of cutting-edge clean energy technologies. The largest program at CRS, the Green-e Renewable Energy program, focuses on customer choice of renewable electricity, whether that occurs in competitive or monopoly retail markets.

About the Public Renewables Partnership

The Public Renewables Partnership (PRP) is an initiative dedicated to enabling public utilities and co-operatives to effectively integrate renewable energy into their power portfolios and business strategies. The Partnership is administered by CRS and advised by the National Laboratories. Development assistance is provided by the Western Area Power Administration, the U.S. Department of Energy, the California Energy Commission, and others.

PRP's activities are developed by and for its members. They include research, evaluation, analysis, planning and other upstream activities for renewable energy development. PRP is open to any public organization developing, or interested to develop, renewable energy capacity. To find out more about PRP offerings, visit:
www.resource-solutions.org/PRP.htm



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I. Executive Summary

Green pricing is a voluntary option offered by electric utilities that allows customers to support investments in renewable energy technologies. Green pricing enables residential and non-residential consumers to purchase electricity from renewable resources such as solar, wind, geothermal, and biomass. Generally, this environmentally preferable electricity costs a little more than traditional baseload power, which is generated with sources such as coal, natural gas, large hydropower and nuclear fuels. Through green pricing participating customers volunteer to pay a premium on their electric bill to cover the extra cost of renewable energy.

To date, more than 100 utilities in the United States have either implemented or announced plans to offer a green pricing option. Over half of these are public utilities. These programs have found mixed success in the marketplace, typically enrolling about 1-2 percent of customers. The most successful entrants in this nascent market have attracted 5-7% of their customers. In total, nearly 220 MW of new renewables capacity has been installed as a result of utility green pricing programs with another 110 MW likely to be installed during 2002¹. However, market research indicates a large potential, and the hundreds of thousands of early adopter customers may represent only the tip of this market iceberg.

This report offers public utilities background on lessons learned from public utilities that have implemented green pricing programs and offers recommendations to consider when implementing a green pricing program. The report is based on a survey of green pricing program managers at public utilities combined with advice from leading renewable energy experts on green pricing best practices. The report first provides profiles of green pricing activity at public utilities in the U.S. and offers a list of the benefits of green pricing programs. It then lists best practices on program implementation as indicated by green pricing program managers and industry experts. Best marketing practices are then presented. The report then outlines how to avoid potential pitfalls. The report concludes with several appendices including four case studies and a list of green pricing resources.

¹ Bird, Lori and Blair Swezey. "Estimates of Renewable Energy Developed to Serve Green Power Markets." National Renewable Energy Laboratory, January 2002.



II. Introduction and Background

Customer interest in “green” power – electricity produced using a significant percentage of renewable energy resources – is quickly building nationwide. Surveys have shown a large percentage of customers willing to pay a premium to support environmentally preferable energy.² This demand has led many utilities to offer “green pricing” options to serve this customer segment; public utilities in the United States are at the forefront of this effort.

Green pricing is an option offered by electric utilities that allows customers to support investments in renewable energy technologies. Through green pricing, participating customers pay a premium on their electric bill to cover the extra cost of the renewable energy. More than 100 utilities have either implemented or announced plans to offer a green pricing option. Over half are public utilities.

Green pricing programs can help stimulate interest in and the development of clean power resources in several critical ways:

1. Directly increasing the development of new renewables;
2. Helping educate a broad spectrum of customers, not just green pricing customers, about the impact of electricity generation on the environment;
3. Providing options for residential and non-residential customers to purchase electricity from less polluting resources; and
4. Increasing investment in renewable energy technologies.

Green pricing programs have found mixed results in the marketplace. Some programs have seen low levels of customer interest and significant criticism by environmental constituents; others have attracted tens of thousands of customers and broad public support. The intent of this report is to provide an overview of lessons learned to date on green pricing at public utilities, and to organize that information into a how-to guide for utilities that want to maximize success in their green pricing offering.

Overview of Green Pricing Programs at Public Utilities

In July of 2002, Center for Resource Solutions (CRS) conducted a survey of all 57 public utility green pricing programs in the United States. This report is largely based on what was learned from the 47 responses to the survey.

The National Renewable Energy Laboratory (NREL), the U.S. Department of Energy's renewable energy research and development laboratory, has released several studies on the state of renewable energy markets. According to NREL, the top green pricing programs have participation rates of 4-7%, while the national average participation rate is approximately one percent. Of those renewable energy sales, about one third are to non-residential customers. To date, marketing has been directed primarily to residential

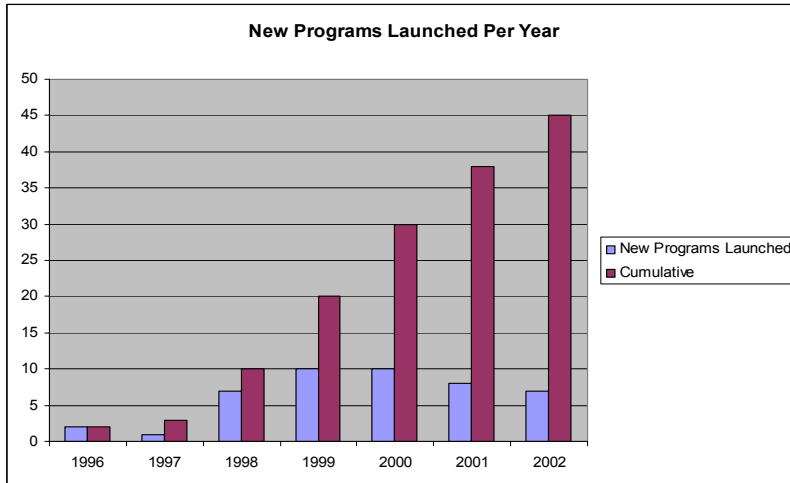
² Farhar, Barbara C. "Willingness to Pay for Electricity from Renewable Resources: A Review of Utility Market Research." National Renewable Energy Laboratory. NREL/TP.550.26148. July 1999.



customers. The median price premium for renewable energy products in the United States is 2.5¢/kWh, and the average residential customer spends about \$5.50/month to participate.

Results from the CRS survey of public utilities, displayed below, tracked with these national averages.

Survey Results: Tables and Summary Data



Which customer classes can buy green power through your program? (Select one or more)	
Residential	43
Commercial	40
Industrial	37
Total Respondents	44

Approximate number of green pricing customers by class:

- Residential: 137,731
- Non-residential: 2,761

What percent of each customer class participates in your program?

- Residential: 2.04%
- Non-Residential: 0.70%

How much is the average monthly green kWh purchase quantity per green power customer?

- Residential: 341 kWh
- Non-residential: 2,226 kWh



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Total Nameplate Capacity Dedicated to Supply Green Power Customers

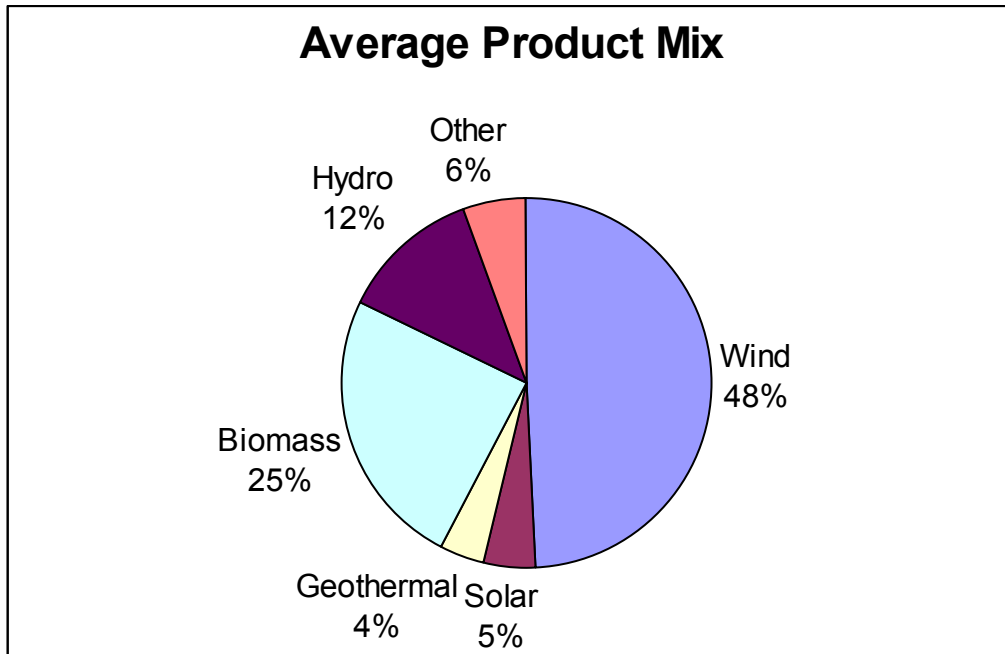
- Wind - 297.6 MW
- Biomass - 88.3 MW
- Hydro - 69.6 MW
- Solar - 1.74 MW
- Geothermal - 0 MW

Were these renewable facilities developed specifically to supply your green power program?	
Yes	51.2%
No - they were existing renewable facilities	30.2%
Other (please specify)	18.6%

The "other" responses noted that the facilities were built for several purposes (including green pricing, rate-based renewables, diversification of fuel mix), that the green pricing was based on tags, or that the utility used a combination of new and existing renewable facilities.



If a green pricing product blend could be created as the average of all green pricing products offered by public utilities in the United States, the mix of resources would be as follows:



This is not a weighted average of capacity or sales, but reflects the average blend offered.

Benefits of Green Pricing

Green pricing offers public utilities the opportunity to build renewable generating capacity, diversify generation resource mix, improve air quality, develop institutional expertise in the growing field of renewable energy, improve environmental performance, build customer loyalty, and expand business lines and expertise.

When public utilities were asked, “**what do you see as the main benefits of green pricing for your utility?**” respondents’ overwhelming response was to respond to customer demand and to thereby increase customer satisfaction. Green pricing “gives our customers a voluntary option”, “a chance to participate in our decision making on electrical production”, and an “option to invest in it without forcing other customers to do so.” Other noted benefits included providing leadership in renewable energy, improving employee morale, improving the utility’s public image, improving relationship with the environmental community, educating the public on the benefits of renewable energy, supporting the goals of the utility, diversifying energy supply, providing additional funds for renewables development, and local economic development.

The main benefits that were identified are summarized below:

- ▶ **Develop Institutional Expertise** - in the growing field of renewable energy and customer choice.
- ▶ **Improve Environmental Performance** - reduce your utility's emissions profile.



- ▶ **Customer Loyalty** - studies show that even non-participating customers prefer a utility that offers a quality green choice. According to one utility, “Even if they don't buy green energy, they view the utility as being environmentally responsible, progressive and responsive to the interests of the community.”
- ▶ **Improve Stakeholder Relationships** – green pricing offers the opportunity to develop and strengthen relationships with local environmental groups.
- ▶ **Meaningful Choice** - give customers the option to purchase they type of energy they prefer.
- ▶ **Improve Air Quality** - give customers the opportunity to take action and improve the environment.
- ▶ **LEED Status** - the US Green Building Council's LEED program provides points for qualifying renewable energy purchases. Architects and builders seeking LEED status may benefit from your green pricing program.
- ▶ **EPA's Green Power Partnership** - recognizes organizations that switch to qualifying renewable energy products. Local business and institutional customers such as universities and government agencies may be interested in participation.
- ▶ **Diversification of Power Supply** - decreases reliance on fossil fuels, which have volatile prices.
- ▶ **Enhance Employee Relations** - utility employees, like their customers, hold value in a green pricing option, even if they do not participate.
- ▶ **Strengthen Relations With Regulators** - some utilities indicated that utility green pricing programs help improve relations between the utility and its regulators. While a public utility may not need to report to a state regulatory agency, the green pricing program still may have benefits in terms of satisfying the oversight board, anticipating federal regulatory policy relating to renewables, or other benefits.

III. Developing a Successful Green Pricing Program

Survey respondents and industry experts agree that the development of a successful product requires choosing the right renewables, involving local stakeholders, building support within the utility, and creating a savvy marketing program. This section will highlight some of the key elements of successful green pricing programs as identified by green pricing program managers and renewable marketing and policy experts.

Assessing and Selecting the Resources

One of the first steps in developing a green pricing program is to determine the type of renewable resource the utility will be marketing. Resource selection is a critical starting point for the program. It will influence the product price, product popularity, capital required, and the amount of time needed to bring the resource online. Here is some general guidance on how to select renewable resources:

1. Survey Available Renewable Resources in the Region

The U.S. Department of Energy's Energy Information Administration and other organizations provide resource maps of renewable energy resource availability. These provide a general idea of the resources that are most plentiful in specific regions and can be found on the internet at: www.eia.doe.gov/emeu/states/_states.html,



www.windpowermaps.org, or www.energyatlas.org. More specific information may be available through industry association websites, state energy agencies, or local environmental groups. The utility or their contractor will need to obtain specific monitoring data in advance of selecting a resource.

2. Siting the Facility

The location of the renewable energy facility is important for several reasons. Issues of transmission infrastructure will have to be weighed alongside community input on facility location. Many renewable energy marketers suggest that facilities should be close enough to customers that they can feel a sense of proximity to the resource they are supporting. Some utilities take advantage of nearby facilities by offering educational tours, which can provide public relations benefits and increase participation. When customers can see the facility, they will likely have a greater sense of ownership. Moorhead Public Service in Minnesota sited its wind turbines in a highly visible location so renewable energy customers have a visual reminder of what their dollars are going to support. The TVA Green Power Switch program, which covers a multi-state service territory, has intentionally located their renewable facilities in several states, so that all customers have a sense of proximity to a facility. On the other hand, renewable resources can also encounter siting difficulties. Some customers will not want a popular scenic view such as a state park to include wind turbines. For example, the state of North Carolina has a "ridge law" that prevents the development of tall structures on scenic mountaintops.

Transmission interconnection, energy imbalance, and ancillary service issues are not specifically related to green pricing, but regard renewables development in general. While these issues may be of significant concern for the utility developing a green pricing program, this report will not address those topics due to the limited scope of issues related specifically to green pricing.

3. Offer Power from New Renewable Resources

Customers often participate in green pricing programs to increase the amount of renewable energy supply in their area, thereby improving the environmental performance of their utility. Therefore, most renewable energy experts and environmental advocates suggest that utilities should develop new renewables in response to customer demand. For a utility to take existing, rate-based renewables and suddenly charge a premium for those under the moniker "green pricing" violates consumer protection best practices because it does not incrementally increase the amount of renewables in response to customer demand. In some cases utilities have blended new and existing resources into successful green pricing products. These cases typically involve the dominant source being new renewables and marketing materials including an explanation of why existing renewables require ongoing premium support. In other cases, utilities have provided new investments in existing resources to put "orphan" facilities back on line or increase the capacity of an existing resource. These value-adding approaches should receive customer support.



4. Quality of Renewables – Include Premium Renewables

Survey research shows that customers typically respond to, understand the basic principle of, and prefer solar and wind resources above other energy resources.³ Therefore, products may be more marketable if they include some amount of wind and/or solar power. Areas with strong wind resources have been able to rely on 100% wind products at low cost, such as Moorhead Public Service's (MN) Capture the Wind or Austin Energy's program (both featured in Appendix A of this report). However, in less windy areas of the country, such as the southeast, utilities will likely need to use biomass or landfill gas to deliver a low-cost environmentally friendly product. In order to heighten marketing success, these utilities could consider including a blend of popular emissions-free resources such as wind and/or solar power.

5. Types of Renewables

Each renewable resource offers strengths and weaknesses. Wind and solar are emissions-free, but are intermittent and have low capacity factors. Biomass and landfill gas facilities offer the benefit of higher capacity factors and baseload operations, but require combustion and are therefore less popular as a green resource with some early adopter customers. Hydropower is emissions free, but may have negative environmental impacts on waterways, fish, and natural habitat. For those reasons, many renewable energy advocates promote the entire family of renewable resources. To replace a high percentage of our current fossil and nuclear fuel use, we will need to rely on the entire portfolio of renewables, so all should be supported.

According to survey research, solar and wind are the most favored sources of electricity generation.⁴ Wind is the most commonly used renewable in green pricing because of its popularity among consumers, and due to its competitive price of generation. Unfortunately, in some locations wind is not a plentiful renewable resource. In those cases, other renewable resources such as biomass, geothermal, or landfill gas may be available at lowest cost. Solar, despite its public popularity, is typically the most expensive resource for the generation of electricity.

6. Buy Power vs. Build Facilities

When developing a green pricing program, utilities have several options in how to obtain the renewable energy to supply the program: build and fully own the facility, purchase the electrical output of an independently-owned facility, take part-ownership of a project, or purchase tradable renewable certificates (TRCs).

³ Farhar, Barbara C. "Willingness to Pay for Electricity from Renewable Resources: A Review of Utility Market Research." National Renewable Energy Laboratory. NREL/TP.550.26148. July 1999.

⁴ Farhar, Barbara C. Ph.D. "Willingness to Pay for Electricity from Renewable Resources: A Review of Utility Market Research." National Renewable Energy Laboratory NREL/TP-550-26148, July 1999.



A study by Lawrence Berkeley National Laboratory investigated the "Buy vs. Build" decision for publicly owned utilities in California.⁵ The report analyzed decision making for wind and geothermal sources. Based on the assumptions made when the report was written (the Production Tax Credit is extended for wind power, geothermal remains eligible for the Investment Tax Credit but not the PTC, and the Renewable Energy Production Incentive either expires, is severely diluted by new capacity, or simply cannot be used for financing purposes) the authors concluded that a public utility is best off economically by purchasing wind power and owning geothermal capacity. However, the implications of the outcome are somewhat ambiguous, "These margins are not always large, however, and one could easily reach opposite conclusions by altering a few of our assumptions," the report stated. The authors suggested that a utility's inexperience in working with renewables might be of sufficient concern to tip the scales in favor of purchased power. Issuing an open Request for Proposals (RFP) that allows various ownership structures may provide a utility with a portfolio of options.

The CRS survey indicates that there is no strong preference among public utilities when it comes to deciding on whether to buy output or own a facility. There is a slight tendency toward purchasing wind and hydro, and owning solar and biomass facilities. The table below also demonstrates that wind is the most commonly used renewable resource for green pricing, followed by biomass, hydro and solar.

Survey question: "For each renewable resource type, please indicate whether the utility owns or purchases the output to supply your green power customers."					
	Own all	Own some/ purchase some	Purchase all	N/A	Response Total
Wind	33%	3%	55%	9%	33
Solar	43%	5%	14%	38%	21
Geothermal	24%	0%	18%	59%	17
Biomass	32%	12%	24%	32%	25
Hydro	18%	9%	41%	32%	22
Other	11%	0%	11%	78%	9
Total Respondents					43

One survey respondent commented on the obstacles they faced in deciding whether to own new renewable capacity or contract with others for purchase from dedicated generating units. "We determined that (1) there would be lower financial risk if we contracted for green energy purchases and (2) we would be able to support a local company through our purchase and stimulate the local economy in doing so." As indicated in the Bolinger, Wiser and Golove report, utilities should consider carefully

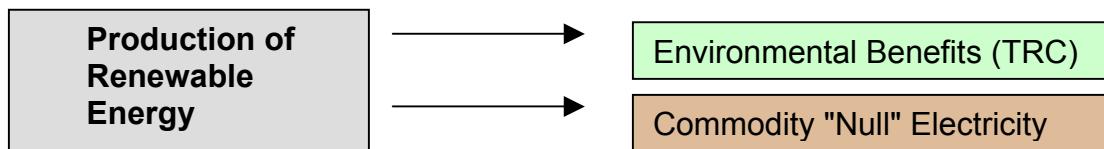
⁵ Bolinger, Mark, Ryan Wiser and William Golove. "Revisiting the "Buy versus Build" decision for publicly owned utilities in California considering wind and geothermal resources." LBNL-48831. 10/01/2001.



their own objectives and risk preferences when deciding whether to own generation or purchase power.

7. Tradable Renewable Certificates (TRCs or Green Tags)

In recent years, some utility green pricing programs have turned to tradable renewable certificates (TRCs or green tags) for supply. These certificates are created when a renewable energy facility generates electricity. Each certificate represents all the attributes of a unit of renewable electricity except the electricity itself. Therefore, TRCs can be marketed as a separate product and sold, traded, or retired anywhere. The part of renewable energy that is not electricity (the TRC) includes a growing list of valuable attributes, including many positive environmental benefits such as various emissions credits. TRCs bundle these attributes into a single, marketable commodity.



TRCs can be sold independently or combined with "generic" electricity to provide customers with all the benefits of renewable electricity service. In other words, a utility may purchase locally generated TRCs, combine them in equal quantities with electricity, and market the product as green power. The renewable energy customer will not necessarily receive a "green" electron into their home under a green pricing program. Rather, they are paying a premium so that renewable energy is put into the grid on their behalf. The use of tags takes this logic one step further by reasoning that a local TRC represents the "greenness" of renewable energy put on their grid system. If the origin of the TRC is geographically distant, particularly if the origin is outside of the utility's reliability region, then it is not certain that the air quality benefits will accrue to the customer. For example, a customer in Atlanta buying a TRC from a Minnesota wind farm will not be reducing regional emissions of NOx. For that reason, a utility should use tags that were sourced from within their reliability region to maximize local environmental benefits. Within particularly sizable reliability regions (the WSCC, for example), it may be appropriate to source TRCs using more restrictive criteria (e.g., in state or in a contiguous state).

Tags can be an easy way to operate a green pricing program. Dozens of utilities in the Pacific Northwest are using Green Tags from Bonneville Environmental Foundation (www.b-e-f.org) to serve green pricing options to their customers. The use of TRCs facilitates green pricing because tags do not need to be sold in real time. The utility can enter into a stable price contract for the tags, and the utility can purchase additional tags to only to the extent that actual demand requires those purchases, thereby ramping up green supply along with product demand. A utility may also be able to sell excess renewable attributes to another utility. As one utility wrote simply, "green tags are the future."

The difficulty of using green tags lies mainly in their intangible form. Several survey respondents indicated that tags made marketing more difficult, as they are difficult to explain, and may provide a greater possibility of double counting given the state of regulation. Two organizations now offer certification or accreditation of green tags: Green-e and Environmental Resources Trust. Certification of tags helps increase consumer confidence and add environmental credibility, which may help overcome the obstacles outlined above.

Several U.S. states and several countries have begun to establish TRC tracking systems. The European Renewable Energy Certificate System (RECS) is a tracking system that ensures all national systems are harmonized. Each RECS certificate is uniquely identifiable, transferable and therefore tradable, and contains basic generation information. Each RECS certificate represents "the entire benefit over electricity from non-renewable sources" and prevents double counting by requiring that "a participating RECS member and parties represented by it may not separately claim or confer rights or title to any element of this benefit." Similarly, the Electric Reliability Council of Texas (ERCOT) operates the Texas Renewable Energy Credit Program, or REC, (www.texasrenewables.com). The New England Power Pool (NEPOOL) has also developed a certificates tracking system, and the Nevada Public Utilities Commission has begun drafting regulations for a renewable energy credit trading system. Formal systems also exist for private certificates transactions through the Automated Power Exchange (APX) in California and the Midwest.

The Center for Resource Solutions is working to establish the American Association of Issuing Bodies, to be the American counterpart to the European RECS and provide a uniform national tag tracking system. This initiative will investigate the potential for coordination between existing voluntary and mandatory tracking and verification regimes for TRCs in the US and provide recommendations for the development of a national tracking and verification system. The development of a coordinated US system for tracking and verifying TRCs should help build consumer confidence, eliminate the potential for double counting of TRCs, and accelerate the market for renewable energy.

Spearheading the Effort

Green pricing program managers report experiencing overwhelming internal support for their programs. Over 91% of respondents indicated that utility staff members were moderately or very supportive of the program; with almost half of all respondents indicating "very supportive".

Please indicate how supportive your utility staff members are of your green pricing program.		
	Response Percent	Response Total
Not supportive	0.0%	0
Slightly supportive	8.8%	3
Moderately supportive	44.1%	15
Very supportive	47.1%	16



Getting the full support of all operating units of a utility is critical to ensure program success. As one utility employee recounted, "We did not have full buy-in from employees who worked at the facility where we installed a 10 kW PV system. As a result, the PV system has been blamed for various problems (e.g. voltage transients, lightning strikes, roof leakage, etc.)". This example shows the importance of garnering internal support for a green pricing program.

When green pricing program managers were asked, "**How would/did you sell the idea of green pricing to executives in your company?**" their responses provided a number of valuable insights.

▶ SURVEY OF CUSTOMERS DEMONSTRATED DEMAND

The best way to determine whether there is interest in green pricing in your area is simply to ask the customers. And that is exactly what some utilities have done. "We did a community show of interest campaign, asking customers if they wanted us to provide a green energy alternative and if they would buy green energy at a premium price. The green energy option had high community support, even among those who said they didn't want to pay for it."

▶ GIVE THE CUSTOMER WHAT THEY WANT

One consistent response is that the customers want the renewable energy option. Customers are exposed to media coverage of environmental issues such as global warming and acid rain, and they want to take individual responsibility by choosing green power. "We are a municipal utility and if our customers want a program and are willing to pay for the program it is our (the utility's) job to deliver the program."

▶ FITS THE UTILITY MISSION STATEMENT

Many utilities have mission statements that include language regarding protection of the environment and responding to customer demand. Green pricing can address both of these goals in a revenue-neutral way. "Our service mission has always been to provide a reliable, cost-based electrical supply through optimal utilization of all available resources. The green pricing program allows interested parties to participate in renewable resources, for whatever reason, without causing others to subsidize their participation."

▶ BUSINESS PLAN

Developing a rough business plan and providing it to decision makers is a straightforward approach that works. The business plan should be able to demonstrate demand, outline an implementation strategy, and show how program costs will be covered. "We had a task force of outside environmental advocates assist in the planning of the program. Our governing board of commissioners was agreeable to a green power program if costs were born by the participants." Developing a business plan with the input of the local community is savvy in that it helps generate program buy-in, while providing the educational benefits of showing environmental constituents the real above-market costs incurred by the utility.



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▶ COST OF RENEWABLES IS DECREASING

With the costs of renewable energy decreasing over time, and the recent volatility in fossil fuel prices, utilities are finding few reasons not to develop more renewables. The cost-competitiveness of renewables makes them less of a financial risk than in the past, and shortens the payback period on the investment. This makes green pricing more attractive to customers because premiums are reduced.

▶ GOOD IMAGE FOR UTILITY

Responding to customer demand for renewable energy should improve customer relations. And building new renewable facilities provides a great visual reminder of the utility's commitment to the environment. "The executives liked the idea that a green-pricing program would provide an avenue for good PR messages."

▶ PROPOSED BY SENIOR MANAGEMENT, BOARD OR CITY COUNCIL

Sometimes green pricing initiatives come from senior staff or governing bodies. "Publicly elected Board of Commissioners directed utility to provide this option," "City Council told them to do it" and "idea proposed by senior management" were typical of the responses received.

▶ PREPARING FOR RPS

The Renewable Portfolio Standard (RPS) is a requirement imposed by a regulatory agency that a minimum percentage of the utility's electricity come from renewable. Thirteen states now have some level of RPS requirement. Other states and the federal government are considering adopting RPSs. In anticipation of an RPS requirement, some utilities use green pricing as a way to develop economies of scale for renewable projects, to become familiar with the renewable technologies, and to gain experience with renewables. As one utility wrote, "with the possibility of a required renewable portion to our energy portfolio, it was in the utility's best interest to be proactive."

▶ MANDATED PROGRAM

Four states (Iowa, Minnesota, Montana, and Washington) now have mandates that utilities offer a green pricing option.

Program Development Partners

When utility representatives were asked "**Who are the most important people/entities to involve in the development of a green pricing program, both internal to the utility and outside of the utility?**" they responded with a broad portfolio of players.

▶ TOP MANAGEMENT

Whether it is the utility president, the Board of Directors, utility commissioners, City Manager or the City Council, buy-in from the top helps get things done.

▶ UTILITY STAFF



Including the utility staff is essential in creating green pricing. Experience shows that support from utility staff from all departments is necessary. Beyond top level management, green pricing managers singled out the billing department, key accounts managers, marketing, communications, public relations, customer service, resource management, IT, energy resources engineering, distribution engineers, rate and policy staff, and administrative staff. All utility employees are key as it is important to get as many people behind the program as possible.

▶ ENVIRONMENTAL ORGANIZATIONS

Environmental groups can provide expertise in renewable energy issues, and also credibility to the program. If your product receives the endorsement of local and/or national environmental groups, that adds credibility not only for environmental group members, but also for others that are familiar with the environmental group or who are interested in third party input. It will be easier to garner environmental endorsement for your product if you invite the key environmental constituents into the planning process.

▶ THE LOCAL COMMUNITY

Local businesses, local institutional customers such as universities, regional environmental groups, and religious groups -- they are not only important constituents, but are also potential early-adopting green power customers. "Community leaders also can play a big role in helping validate the program -- they played a large role in our program kickoff."

▶ TRADE PRESS AND MEDIA

Court the media to earn as much free coverage as possible. Utilities recommended paying particular attention to the editor of the local paper.

▶ RENEWABLE ENERGY DEVELOPERS

If purchasing power, the seller is very important not only in terms of price but also in terms of providing technical information on the performance of renewable energy facilities.

▶ OTHER EXPERTS

Renewable energy experts are available to provide assistance. These include employees at other utilities, the PUC, non-profit organizations and federal agencies such as National Renewable Energy Laboratory (www.nrel.gov), U.S. Department of Energy's Office of Energy Efficiency and Renewable Energy (www.eren.doe.gov), and the EPA's Green Power Partnership (www.epa.gov/greenpower). A list of resources is included in Appendix B of this report.

Designing the Product

Determining the type and location of renewable resources is only part of the equation when designing a green pricing product. Other issues to consider before taking the product to market include pricing, quantity delivered per customer, and how the product will be billed.



1. Collaborative vs. Individual Utility Programs

There are a few cases of utilities that have worked together to offer a uniform product across service territories. The largest example of this approach is the Tennessee Valley Authority's Green Power Switch product; now offered by 46 of its distributors. This model has created one of the strongest green pricing programs in the country, but has also faced challenges unique to a collaborative approach. Marketing success has varied considerably among the participating distributors, and TVA has endeavored to ensure that certain standard steps are taken by distributors to ensure success. For details, see the case study in Appendix A of this report.

Georgia Electric Membership Corporation (Georgia EMC) is a member-owned not-for-profit statewide trade association serving Georgia's 42 electric membership cooperatives. Through Georgia EMC, sixteen of Georgia's electric cooperatives are now offering a green pricing option to their customers. As with TVA, the Georgia EMC approach offers the opportunity to pool resources to gain strength and efficiency.

But with this approach comes the challenges of maintaining consistency across service multiple service territories. Questions to consider when taking this approach include whether distributors will be able to determine their own price, terms, and marketing materials. In addition, the coordinator of a collaborative effort will need to consider what actions to take if a distributor is any sort of violation of an agreement, or is not adequately marketing the product. Finally, the collaborative approach requires a process of verification to ensure that delivered renewable energy meets sales quantity; this is more of a challenge for a collaborative approach than for an independent approach.

Three large utilities in North Carolina have an agreement that Advanced Energy, non-profit corporation located in Raleigh, will operate a statewide green pricing program. If NC GreenPower is approved by the state PUC this winter, North Carolina will become the first state in the nation to offer a statewide green pricing program available to all electric consumers with participation from all of the state's electric utilities.

Joint implementation has the potential to reduce administrative costs and increase economies of scale - reducing costs for all participants. At least one initiative is underway to achieve this critical mass. The Public Renewables Partnership (PRP) is an initiative dedicated to enabling public organizations and co-operatives to effectively integrate renewable energy into their power portfolios and business strategies. PRP is a membership organization operated and administered by Center for Resource Solutions whose activities are developed by and for its members in the public sector. They encompass research, evaluation, analysis, planning and other upstream activities for renewable energy developments. More information is available at: www.resource-solutions.org/PRP.htm.



2. Pricing Structure

There are several product design options for utilities to consider when implementing billing and accounting systems. The product design will determine the ease of billing systems. The following product types are most common:

- **Fixed Quantity Block:** for example, the utility sells 150 kWh blocks of 100% green power for a \$4 premium per month. Customers may sign up for as many blocks as they wish. This may provide for easy accounting since metering data is not relevant.
- **Percent of Monthly Use:** for example, a customer may choose green power to supply 25%, 50% or 100% of their monthly electricity use. This is typically done as a premium on a cents per kWh basis. Billing is done as a line item multiplier of the monthly meter read.
- **Renewables as Generation Charge:** rather than paying a fixed premium above their regular rate, the customer pays a fixed charge per kWh to purchase the generation portion of their bill from renewables. In this example, the regular generation rate per kWh is replaced by a green power rate, rather than having the green power fee as an add-on to the normal rate. This way the green power customer is sheltered from any changes to the fossil fuel rates. Austin Energy and others have used this effectively.
- **Capacity Based Block:** for example, a customer signs up to support 200 watts of solar PV capacity per month. Like a fixed quantity block in that customers may sign up for as many blocks as they wish and this may provide for easy accounting since metering data is not relevant. However, this approach does not tie customer use to specific delivered quantities of green electricity, which may cause marketing difficulties.
- **Fixed Fee:** for example, a customer signs up for \$5 worth of green power per month. This is similar to the fixed quantity block, but no guarantees of power delivery are made. Simple billing, but customers may wonder what they are receiving for their premium.
- **Contribution:** for example, a customer donates \$5 per month to go into a renewable energy development fund. Like a fixed fee this offers simple billing, but customers may wonder what they are receiving for their premium.
- **Non-profit Donation:** if a utility is a non-profit organization, or if it uses a non-profit organization to administer the green product, it may be able to use the 501c3 status to receive contributions from customers that are interested in a tax deduction.

When survey respondents were asked about how their product was priced, a majority of utilities indicated that they offer a fixed-sized block:

How is your product marketed? (Select one or more)	
	Response Total
Fixed-size monthly block (e.g. 100 kWh)	31
% of customer's monthly	16



metered use	
Other (please specify)	5
Total Respondents	44

The respondents who selected "other" typically had products that were based on the dollar value of the customer contribution, not the amount of electricity delivered. These programs, sometimes referred to as "donation programs," ask customers to contribute an amount per month but do not offer guarantees that a specific amount of renewables will be placed on the grid. NREL reports⁶ that "contribution programs have resulted in only small amounts of new renewable electric capacity" and Green-e accreditation criteria states, "donation programs are generally not eligible for accreditation" because they do not "explicitly link customer payments to energy and capacity production and delivery designed to serve that customer."⁷ These are strong arguments against contribution/donation programs.

While there is no definitive market data regarding whether a fixed block or percent of use product is more successful in the marketplace, some utilities are hesitant to offer a percent of use product because of the cost variability for the customer from month to month. In the words of one utility representative: "I think it was not successful because many customers want to know what the actual cost will be. When you are in the field without access to a customer's kWh usage this answer cannot be provided." The utility employee proposed the solution of providing outreach staff with laptops with customer kWh history.

Other recommendations related to pricing include:

- ▶ **Select a palatable pricing point** - In general, the product price should incorporate the incremental cost of the renewable energy supply and the marketing and infrastructure expenses of selling a differentiated green power product. While there is no magic formula for determining an optimal price, a majority of customers say they are willing to pay a premium of five dollars a month for green power, but the willingness curve drops steeply above that amount.⁸ The median green pricing charge is about 2.5 cents/kWh. Offering the customer a series of price points (options such as 50% or 100% renewable, or buying any number of 150 kWh blocks, for example) will broaden access to the program because some customers are willing to pay more than others for green power. In addition, a utility should be sure to tap into all available renewable

⁶ Swezey, B. and L. Bird, "Utility Green Pricing Programs: What Defines Success?" NREL/TP-620-2983 | Golden: CO: National Renewable Energy Laboratory, August 2001. www.eren.doe.gov/greenpower/29831.pdf

⁷ These criteria are available at: www.resource-solutions.org/pdf/GPAC.pdf

⁸ Farhar, Barbara C. "Willingness to Pay for Electricity from Renewable Resources: A Review of Utility Market Research". National Renewable Energy Laboratory. NREL/TP.550.26148. July 1999.



energy subsidies to reduce the premium. A good source of information on subsidies available in your area is the Database of State Incentives for Renewable Energy (DSIRE), available at www.dsireusa.org.

- ▶ **Offer price stability** - Unlike some conventional energy resources whose costs vary with the fluctuations of fuel input prices, renewable energy sources can typically be purchased by utilities at fixed and known prices. Austin Energy and a number of other utilities have used this natural characteristic of renewable energy and used price stability as a key selling point for their products, especially when marketing to non-residential customers. Austin Energy's price is not an automatic premium added to the customer's rate, but rather is a renewable energy rate that replaces the standard tariff. Their renewable energy rate is guaranteed to be stable for ten years. Austin Energy's non-green customers are exposed to adjustments in fossil fuel rates. For more information, see the case study on Austin Energy in Appendix A of this report.
Explain quantity of renewables - Most residential customers do not know a kWh from a MWh, so it is important to be clear and simple when disclosing sale quantity, particularly when selling in kWh blocks. For example, "a purchase of 150 kWh of renewable electricity represents X% of the average monthly usage of a residential customer in our service territory." For specific guidance on non-residential purchase quantities, see the EPA's Green Power Partnership guidelines at www.epa.gov/greenpower.
- ▶ **Tie customer purchase to usage** - market experience shows that contribution programs, which do not tie a customer payment to their usage of energy, tend to be less successful in developing renewables⁹. This may be due to customers' uncertainty about what their payment will provide.
- ▶ **Be sensitive to local conditions** - what is successful for one utility may not work for another. This applies not only to marketing approach, but also to renewable resource type. For example, Atlanta has serious NOx non-attainment issues and environmental stakeholders there have argued that any biomass used for green pricing in the region must have low NOx emissions. Biomass NOx emissions have been of lesser concern in other regions.
- ▶ **Give the people what they want** - A focus on what the customer wants is essential to successful marketing efforts. To determine customer preferences may require market research. This can be done specifically for a utility, or cooperatively. Additional sources of specific renewable energy market information are available such as E Source (www.esource.com) and Xenergy (www.xenergy.com).

3. Billing Software Integration Issues

Integrating the green pricing product into the utility's billing system can be as complicated as the product itself. The more options you offer to your customer, the more will have to be accounted for in the billing system. Since there is no single type of billing system, nor one type of green pricing product, this report cannot capture the specific issues any one utility will face. The paragraphs below provide a summary of the

⁹ Bird, Lori and Blair Swezey. "Utility Green Pricing Programs: What Defines Success?" National Renewable Energy Laboratory. NREL/TP-620-29831. July 2001.



general feedback that public utilities provided regarding billing software integration issues.

What are the steps involved? Involve the Information Systems staff from the very beginning of product planning. They are able to determine what programming will be necessary, the programming costs, and the timing of implementation. Work with your Information Systems staff to determine what the Customer Information System's (CIS) programming language can handle and the priority of such a change. Billing complexity will vary with the in-house system. Some utilities reported that large commercial accounts required manual calculations each month, at least as an interim measure as the billing system for those rate classes was developed.

What are the hurdles? Some utilities in regulated states reported having chosen to not invest in recent years to upgrade CIS's, but rather to wait and see whether deregulation occurs and then justify CIS software packages that incorporate Customer Relationship Management Systems into them. This may complicate and/or delay the responsiveness of the Information Systems staff.

What are your tips to make this easy? Full cooperation from the Information Systems group is key. As is necessary for all successful projects that involve programming, have their buy-in up-front and solicit their ideas at the beginning of the project.

What issues are inherent to block products vs. products based on monthly electricity usage? Block products can usually be implemented as a line item on the customer's bill. This is a fixed charge from month to month that requires no logic be performed using live fields from the electricity bill. Products based on monthly electricity usage are not fixed-fee and require logic to be programmed in and executed every billing cycle. This may or may not be a problem, but must be analyzed by the particular company's Information Systems group.

4. Disclosure

Whichever billing method you chose, accurate disclosure is critical. A study on community-based green power marketing¹⁰ found that utilities with unsuccessful programs often have ill-defined programs that do not tell their customers precisely what they are buying. To avoid these potential pitfalls, clearly explain how much the customer will need to pay as compared to a non-green customer, what quantity of renewable they will receive, the types of renewables that make up the product, the mix of renewables by percentage, and how many customers it will take to support a renewable facility. The Green-e program also requires utilities to disclose to all customers, regardless of their participation in the green pricing program, details on the utility's system power mix. This serves as an educational tool for all energy customers.

¹⁰ Rudd Mayer, Eric Blank, and Blair Swezey. "The Grassroots Are Greener: A Community-Based Approach to Marketing Green Power." Renewable Energy Policy Project. Research Report No.8, June 1999.



Designing the Program

Once the product design questions have been answered, operations issues must be addressed. The following recommendations have been culled from the survey of utility green pricing managers and industry literature:

- ▶ **Ease of sign up** - the easier it is for a customer to sign up for the program, the lower is the barrier to entry. Survey results emphasized use "bangtail" tear-off mailers in bill stuffers, internet sign-up options, postage-paid reply envelopes, and training call center staff so that customers can sign up when making changes to their service as means to lowering the barriers to sign up. Sacramento Municipal Utility District (SMUD) has an incentive program for call center employees that sign up customers for renewable energy, which has been a low-cost source of green customers.
- ▶ **Meet demand of market** - some utility green pricing programs are quick successes, where green pricing customers have completely subscribed the original program capacity in a few short months. Of the public utility survey respondents, about a quarter indicated that their program was 100% subscribed. While some in the industry may view full subscription as a success, a fully subscribed program may or may not be meeting all of the market's demand for renewable energy. It is important that all interested customers have access to renewable energy, which may mean expanding a program over time. Be prepared to plan for program expansion over time to meet demand. One utility described their approach as, "We based our initial green energy purchase on the number of customers who said they would buy, and we have increased our green energy purchase each year as warranted by customer demand. It wasn't a difficult sell to utility executives or to City Council, as long as we minimized the risk to the utility (e.g. committing to purchase more green energy than we could sell)." Other options to consider during times of full subscription include developing a waiting list of interested customers to serve when the additional renewable are installed, or purchasing TRCs from a neighboring utility to meet that additional demand immediately.
- ▶ **Serve all customer classes across entire service territory** - even though less than 1% of non-residential customers typically participate in green pricing programs, they make up about a third of total program demand. While target marketing can be an effective marketing strategy, keep the doors open for all interested customers, no matter where they are located within the service territory or their customer class.
- ▶ **Allow customers to purchase 100% of their energy from renewables** - whether you are offering a product that is sold in blocks, percent of monthly use, or otherwise, be sure to allow customers the option of taking 100% of their energy from renewables.

Regulatory

The following section addresses issues related to green pricing that overlap the regulatory oversight of renewable energy.



1. Rate Base vs. Green Pricing

Green pricing is one of many approaches used to develop renewables. Some utilities have included renewables in the general rate base voluntarily, others have been mandated to do so, and others have collected funds through a public goods charge to develop renewables. Several survey respondents commented that green pricing might not be the best tool in the renewable energy policy toolbox. Similarly, some regulators, environmental advocates, and customers prefer rate-basing renewables instead of voluntary green pricing. This socializes the above-market costs of renewables, and is an equitable way to pay the premium. Rate-basing renewables can be a good way to develop renewables in a low-cost and equitable manner.

The Renewable Portfolio Standard, or RPS, is the most common tool used to promote rate-based renewables. A typical RPS requires that a share of the power sold in the state must come from qualifying renewable facilities, with the renewable share increasing over time. To date, 13 states have implemented some form of RPS.

Rate-basing renewables does not achieve all renewable development goals, however. For example, rate-based renewables limit individual customers to purchasing the amount of renewables mandated. In other words, if the RPS mandates that the utility generate 5% of its power from renewables, then individuals are limited to that amount. Green pricing allows customers to purchase up to 100% of their power from renewables. In addition, green pricing is a great way to educate customers about their energy usage. Green pricing requires customer education regarding their energy usage and the environmental outcomes; an RPS does not. The additional benefits of green pricing appear in this report in the section on the benefits of green pricing. Many of those benefits, particularly those that result from customer/utility interaction, do not occur as a result of an RPS.

Many renewables advocates believe that green pricing and rate basing are compatible programs that should be used in tandem. States such as Wisconsin and Minnesota have implemented RPS policies, and have also witnessed some very successful green pricing programs. Net metering, buy-downs, tax incentives, and other renewable energy policy tools are also compatible with RPS and green pricing. It should be noted that renewable energy advocates generally agree that when an RPS and green pricing occur at the same time, that the renewables used for green pricing should be above and beyond the amount specified in the RPS.

2. Integrated Resource Planning Treatment

Contemporary utility planning often takes more into account than a simple least-cost figure. The Integrated Resource Planning approach considers energy efficiency, load management, renewables, and other tools that may reduce lifecycle costs and hedge risks. Financial managers advise their clients to diversify their portfolio. The same applies to a portfolio of energy sources. Diversification reduces risk. The benefits of having renewable energy facilities that are independent of fossil fuel price volatility add value to a utility and its customers.



3. Mandated Renewables

Some utilities have shown an interest in using green pricing programs as a vehicle for meeting renewable portfolio standards or other mandated renewable generation. Experts warn that this practice is not advised because it may be considered as "double counting." Since the mandated renewables would have been developed anyway to meet the mandate, the green pricing customer would get no incremental benefit from their premium payment. This results in a transfer of funds from customer to utility without a transfer of benefits from utility to customer, and may violate the NAAG Environmental Marketing Guidelines for Electricity.

IV. Marketing the Product

Green pricing introduces choice to customers who are accustomed to monopoly electricity service. To succeed in getting customers to switch from the default electricity to renewable energy will require a certain amount of customer education in the form of marketing. Marketing experts, including those in green pricing, typically refer to the "Four Ps" of marketing: Product, Place, Promotion, and Price. This section of the report provides specific marketing recommendations for green pricing that pick up where the textbooks leave off.

- ▶ **Create value** - the customer will need to understand the benefits of their premium payment. In your marketing materials, consider drawing comparisons of the environmental benefits of their purchase to planting trees or driving less (for example, each 100 kWh of wind power you purchase has the same air quality benefits as reducing x# of car miles or planting x# of trees). Directly tying the customer's purchase to local environmental benefits is a powerful and effective message. As one green pricing manager wrote, "Make sure your advertising is emotional - don't use the traditional utility bland advertising approach." Another way to add value is to pass through to the customer the price stability benefits of renewable energy. This approach is explained in the case study on Austin Energy in Appendix A of this report.
- ▶ **Personal recognition** - many successful green pricing programs will publicly recognize the purchaser as a way to make the customer feel a part of the solution. Moorhead Public Service puts the customers' names on the wind turbine itself. Austin Energy places a newspaper ad honoring each business customer. Other utilities send occasional "thank you" messages to maximize customer retention. "The more personal and direct you make the experience the more participation and satisfaction you get," claims one green pricing manager.
- ▶ **Simplicity in message and design**- most customers do not understand industry terms such as kWh, the grid, or electrons. Keep the message simple and accurate. One green pricing program manager advises, "Be able to explain the complex transaction of green pricing in layman's terms. Customers rarely think of energy when turning on a light switch much less think about what fuel source is providing the power and/or how this process works."



- ▶ **Adequate marketing** - as in other product marketing, selling a renewable energy product will require exposing customers numerous times to your message before they will switch. A bill stuffer alone may not maximize results. Using multiple channels, such as your website, newsletters, bill stuffers, press releases, and partnerships will increase participation.
- ▶ **Disclosure of resources** - Customers will want to know the types of renewables they will be receiving. About half of U.S. states have some disclosure requirement, and many of these provide good examples. Most public utilities provide a product mix disclosure, and some also provide emissions profile disclosure.

Is the green product mix disclosed to your customers in program materials?	
Always	47.8%
In some program materials	32.6%
No	19.6%

- ▶ **Accurate marketing** - It is critical to understand the implications of your marketing claims. The National Association of Attorneys General (NAAG) has drafted Environmental Marketing Guidelines for Electricity¹¹, which provide green power marketers with examples of acceptable and misleading marketing claims. Familiarity with this document, along with careful scrutiny of your marketing materials, is good preventive action. In July 2002, the British power company Npower and Greenpeace were found guilty of misleading the public over a particular ad for their joint renewable energy marketing initiative. A few well-intentioned marketing efforts in the U.S. have received similar negative attention. Green-e certification provides a bi-annual review of marketing materials, which helps renewable energy marketers by providing a knowledgeable, critical review of collateral.
- ▶ **Partner with local environmental groups** - cultivating good relations with local environmental groups can bring credibility, customers, and publicity to the program. Notable examples of utility/environmental green pricing partnerships, such as Land and Water Fund of the Rockies supporting the wind product of Public Service of Colorado¹², or the Southern Alliance for Clean Energy's promotion of TVA's product, demonstrate the power of the partnership. In these cases, the utility started working with environmental groups early in the process, which resulted in the group not only endorsing the product, but also actively promoting the product to residential and non-residential customers.
- ▶ **Strategic co-branding** - Beyond partnering with local environmental groups, utilities should consider co-branding opportunities with local retailers. Sacramento Municipal Utility District (SMUD) arranged successful initiatives with retail chains

¹¹ NAAG guidelines available at www.eren.doe.gov/greenpower/naag_599_pr.pdf

¹² The Colorado case study is available in the publication "The Grassroots are Greener: A Community-Based Approach to Marketing Green Power" by Rudd Mayer, Eric Blank, and Blair Swezey; available at www.repp.org.



Starbucks Coffee and Jamba Juice, in which the retailers display green pricing sign-up materials in their stores, and SMUD provides a coupon for free merchandise from those retailers after the customer has been in the program for six months. Other utilities, such as Los Angeles Department of Water and Power, have offered payment to community organizations for each sign-up. This arrangement has also been successful for competitive renewable energy marketers Green Mountain in working with religious organizations to encourage their parishioners to sign up for renewable energy.

Survey Results on Marketing Campaigns

Green pricing managers were asked in the survey, "**of the marketing channels you use, which are most cost effective per customer switch?**" The responses were tabulated and assigned points based on a 4-point sliding scale of Poor-Excellent, with the best channels scoring highest. The results appear below.

Marketing Channel	Response Average
Bill inserts	3.29
Co-branding/Partnership	3.00
Direct mail	2.95
Newsletter	2.88
Television	2.56
Radio	2.45
Newspapers	2.35
Email	2.33
Magazines	2.33
Call center - inbound	2.25
Website	2.19
Events	2.04
Billboards	2.00
Call center - outbound	0

When asked "**Please briefly describe your most successful marketing campaign(s) including number of customers who switched, marketing cost per customer who switched, and why you think it was a success**" utility representatives responded with their top picks:

▶ **BILL INSERTS**

The most often used and most highly rated outreach channel was the bill insert. Utilities typically credited bill inserts as being low-cost with strong results. "Bill stuffers are by far the most successful way of getting customers to sign up. This only cost a few cents per customers. The bill stuffers work because you put them directly in the hands of customers." Utilities emphasized that the bill insert should make switching simple, such as including a postage-paid return envelope or check box sign-up process. Several utilities witnessed their best results from the first bill stuffer, but suggest repeating



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regularly: “Approximately 2% of all customers signed up from our first bill stuffer. Cost was about \$10 for each signed up customer.”

▶ PARTNERSHIPS

Partnerships and co-branding offer low-cost channels for connecting with potential customers. Environmental organizations are suitable partners because their members are likely to have an interest in renewable energy.

▶ TARGETED DIRECT MAIL

Direct mail, even when targeted, is a much more costly way of acquiring renewable energy customers than bill stuffers. Nevertheless, some utilities see direct mail as a useful component in a green marketing campaign. “We mailed a non-corporate educational piece to 40,000 customers. This mail piece had a postage-paid sign-up tear-off section making it easy on the customer to sign-up. At the same time a bill stuffer was sent in all residential customer's bills. Between the two mailings over 400 customers signed up. It was successful because the mail piece was informative and convenient for the customer to take action.”

▶ COMBINATION

Most utilities indicated that using a combination of marketing channels was the key to success. Using a variety of channels increases the breadth and depth of customer exposure to your message. One utility indicated that its most successful efforts have been based on timing their multi-media campaign to coincide with new local renewable installation events: “For example, the installation of a customer-owned 10 kW wind turbine generated a lot of positive press, which generated an increase in monthly contributions to our program. The original installation of a 10kW solar system at the local college, along with substantial advertising on the radio, newspaper, billboards and direct mail generated the bulk of the 680 customers we had sign up for our program.”

▶ NOT CERTAIN

Many green pricing programs are in the nascent stage and do not have sufficient data points to determine their most effective marketing approach. This is evidenced in utility responses such as “Progress has been incremental over time,” “Too early in the program to ascertain,” and “No specific BEST way - they come in from many sources.”

When asked to describe their least successful marketing campaign, utilities pointed mainly to events, display ads, TV, and elaborate brochures.

▶ EVENTS

Among the types of events mentioned as least successful were annual meetings, home and garden shows, solar homes tours, and minor league baseball games. While such events may be good for building product awareness, they are not strong in creating switches to renewable energy. “They enjoy talking about green power, but don't tend to sign up” and “they will take home the brochures and say they will call back but never do” were common comments.



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- ▶ **COMPLICATED OR FANCY MATERIALS**
Several utilities have reported weak returns from fancy, glossy materials. "One reason why we think the campaign was not successful was that the mail pieces were too glossy and corporate looking and that we did not include an action (sign-up sheet) on each mailed out piece," reported one utility. Keep it simple.
- ▶ **TELEVISION**
Television advertising is generally considered too expensive of a means to getting the message out.
- ▶ **TIMING IS EVERYTHING**
Timing of the marketing campaigns may also be important. Utilities see a correlation between service rate increases and decreased interest in paying green pricing premiums. "Our last bill stuffer happened at exactly the month as our first rate increase in over 7 years was showing up in the bills. Almost no one signed up. The most common comment was that customers were waiting to see how the rate increase affected their budget before committing more money for wind power." Several utilities mentioned that they would not execute green marketing campaigns in close proximity to default service rate increases or during times of extreme weather (cold or heat) that may increase a customer's monthly energy bill. Those are times when renewable energy customer sign-on rates tend to be low, and when existing customers show the greatest tendency to opt-out of green pricing.

Ongoing Monitoring and Evaluation

It is important to monitor the success of marketing campaigns to facilitate evaluation of success. That way a utility can repeat the successful campaigns and adjust or abandon those that were not successful, keeping green customer acquisition costs down. Tracking cost-per-sale across all advertising mediums is the best general rule, and will require planning so that you can determine the source of each customer switch. Tracking other metrics, such as dollars contributed per customer per month, number of blocks sold per customer, and percent of customers participating will also be helpful in benchmarking progress and in comparing your success to other utilities.

Green pricing program managers emphasized the need for persistence. Suggestions included, "Only undertake green pricing programs if you have the support and financial resources to commit for the long term" and "Perseverance and adaptation are the major keys to the success of any green power program. Try, evaluate and adapt." This emphasizes the need for ongoing efforts to improve the program.

Developing Consumer Confidence: Accreditation and Working with Stakeholders

Renewable energy is intangible to the end use customer. A "green" electron is indistinguishable from a "brown" electron. Specific electrons do not travel to specific homes. This makes it difficult for energy customers to know whether they are receiving the renewable energy they purchase. To overcome this barrier to customer acquisition,



utilities need a trusting relationship with their customers. Survey respondents also emphasized the issue of trust. Fortunately for public utilities, they have built a level of trust that does not necessarily occur with investor owned utilities. A possible outcome of this trust issues is seen in the fact that publicly owned utilities tend to have green pricing programs that perform better than those of investor-owned utilities. One study claims, "As a rule, investor-owned utilities have had greater difficulty designing successful green pricing programs than municipal utilities. Municipals have garnered higher levels of participation and have brought on line more renewable energy."¹³

To develop this trust, many utilities have pursued accreditation. Accreditation provides an independent third-party review of the program, which may help build consumer confidence. The Green Pricing Accreditation program, a regulated-market companion to CRS's Green-e certification program, offers a stakeholder-driven best practices approach to green pricing. The program brings together local stakeholders to develop statewide criteria for green pricing programs, and then provides support and a verification process to ensure compliance. Green pricing product criteria include determining the types of eligible renewables, the minimum purchase quantity per customer, the marketing parameters, disclosure, and others. The verification process ensures that the utility is delivering on its promise to abide by the criteria. The stakeholder process brings utilities and renewable energy advocates together to agree on a set of concepts. Through the process, stakeholders have the opportunity to shape the utility green pricing programs offered their constituents. For more information on this program, visit www.resource-solutions.org/greenpricing.htm.

Some institutional purchasers of renewable energy have issued RFPs that require their green products to be certified by a third party to ensure the generator met certain criteria. Likewise, the EPA's Green Power Partnership, which recognizes organizations that switch to green power as environmental leaders, has criteria for participation that can easily be confirmed through accreditation. The U.S. Green Building Council's LEED Green Building Rating System™ awards points toward certification for the purchase of accredited renewable energy. These benefits may be where accreditation adds most value to your program.

Finally, it is important to note that utilities are subject to Federal Trade Commission truth-in-advertising laws, and the National Association of Attorneys General has issued Environmental Marketing Guidelines. Utilities must be able to substantiate their marketing claims regarding renewable energy supply and environmental improvement from their green pricing product. Some accreditation programs, such the CRS Green-e program, offer a marketing compliance review as a component of accreditation.

¹³ Blank, Eric; Rudd Mayer; John Nielsen; Randy Udall. "Promoting Renewable Energy in a Market Environment: A Community-Based Approach for Aggregating Green Demand." Land and Water Fund of the Rockies/U.S. Department of Energy Report. Boulder, Colorado. May 1997.



When asked about accreditation, utilities had mixed views. About a third of the public utilities polled reported that accreditation was "very important" or "somewhat important." This may be due to the recent introduction of accreditation, which is a much newer tool than green pricing itself. Indeed, 15% of respondents indicated that they were unaware of their accreditation options. Those utilities that find accreditation important, endorsed it enthusiastically. It appears that the value of accreditation is greatest when a utility is looking to build customer trust in the product. Accreditation that involves stakeholders, such as the program offered by CRS, may increase public support of the product through community involvement in local accreditation criteria development.

V. Potential Pitfalls and How to Avoid Them

When public utility green pricing managers were asked, "**Have you experienced any negative consequences from your green pricing program?**" the most common answer, provided by half of respondents, was "no". Very few negative consequences were reported, and those that indicated pitfalls typically stated that the positives outweigh the negatives. Looking at the reported negatives provides insight on how to avoid potential pitfalls. The comments fell into several categories, which appear below along with suggested means to avoid the pitfalls:

▶ OTHER POLICY TOOLS ARE BETTER

Several respondents commented that green pricing might not be the best tool in the renewable energy policy toolbox. Comments mentioned that state regulatory agencies, environmentalists, and some customers prefer rate-basing renewables instead of voluntary green pricing. For example, "Some customers are concerned that by allowing some customers to opt in to green power we are also allowing all others to opt out. They suggested that green power purchase be mandatory for all customers."

Solution: build renewable capacity for the general rate base as well as for green pricing.

▶ COST TOO HIGH

Three respondents indicated that the premium price for renewables was a turn-off to some of their customers, especially when rate hikes took place.

Solution: use low-cost renewables and a pricing structure that shelters customers from fossil fuel price volatility. Position the product as one that provides customer value.

▶ TAGS ARE CONFUSING

Several respondents indicated that the use of Tradable Renewable Certificates (also known as "tags") made marketing more difficult. In the words of one respondent, "The only negative feedback we're getting from customers is from those who would like to purchase actual green power not just green tags." Another indicated that the concept of tags is "hard to explain" to customers.

Solution: if using tags to supply your green pricing program, use only locally sourced tags. See the section in this report on TRCs for more information.



▶ LOW PARTICIPATION

A couple of respondents indicated low participation as a negative consequence. “Only a small percentage of customers want this product because of the extra cost involved.”

Solution: see marketing suggestions in this report (p.28).

▶ HASSLE FACTOR

Green pricing requires time, capital, and personnel resources. Several respondents indicated such, mentioning increased time answering calls and email, and managing renewable resource facility development.

Solution: green pricing programs do take personnel resources - be prepared and be sure to build these costs into your product price.

▶ POOR CHOICE OF RENEWABLES

A couple of utilities indicated that they received complaints about their choice of renewables to serve the program.

Solution: consult with local constituents before developing the product to ensure buy-in.

When asked, “**what was the biggest hurdle to implementing your green pricing program and how was it overcome?**” respondents typically identified public education as the primary challenge. While a few respondents indicated that there were no hurdles to implementing their green pricing program, others indicated that the road could be bumpy.

▶ CUSTOMER EDUCATION AND MARKETING

Renewable energy is a complex and relatively new product concept. Customers are typically not familiar with terms such as “the grid”, “green power” or “renewables.”

Therefore, renewable energy product managers need to expend effort to educate customers about renewable energy and budget appropriately for product marketing.

Green pricing managers pointed to customer education and marketing as a significant implementation hurdle. This included education of customers and employees. Explaining the concept of green tags was particularly difficult.

▶ SUPPLY

Determining the renewable type, facility location, supplier, and other aspects of renewable supply can be difficult obstacles to implementation. Specific hurdles included negotiating interconnection agreements, dealing with an intermittent resource, negotiating supply contracts, and deciding whether to purchase the electricity or the facility.

▶ PROGRAM DEVELOPMENT

Program development is often viewed as the key to success. A well-designed program will reduce future hurdles and maximize potential success. Survey respondents indicated that the process can be time consuming (two years in one instance). The hurdles to program development can be internal and/or external. One utility reported, “The main hurdles incurred were internally. These dealt primarily with program design, price structure and recouped costs. These were mainly overcome by compromises made between



departments. Other hurdles included legacy computer constraints, internal education (especially explaining why someone would want to pay more for green) and customer service training.” Another added, “Getting the infrastructure built internally to implement the billing, tracking and reporting.” This should serve as a task list for those developing green pricing options.

▶ WORKING WITH COMMUNITY

Involving the environmental community can be difficult, but many utilities reported that the efforts pay off. “This hurdle was overcome by bringing them in into the process early and giving some of them clear responsibilities associated with being on the steering committee.” Some utilities have gotten a foot in the door with the community, and the environmental community in particular, through a certification or accreditation program. The Center for Resource Solutions Green-e accreditation program is the largest in the country and only national program, but other local versions (e.g. Renew 2000 for the Pacific Northwest) might also be available. More information on accreditation can be found in this report on p.35.

▶ DETERMINING THE PRODUCT PRICE

Several respondents indicated that determining appropriate product price was a delicate balancing act. Pricing can be a trade-off between higher participation rates and more favorable economics for the utility. This does not appear to be of major concern to utilities, but was mentioned as a consideration.

VI. Conclusions

Green pricing provides an opportunity for public utilities to improve their environmental profile, respond to customer demand, gain experience in renewable technologies, and hedge against volatile fossil fuel prices. However, simply giving customers the choice between system power and something different is not enough. It is clear that a common ingredient in successful green pricing programs is commitment and hard work by utility staff. Green pricing programs can fail if not properly designed and implemented, but have a great chance of success if best practices are followed. Critical components of a successful green pricing program include the design of the product itself, the credibility of the utility and its message, adequate marketing, and creating a sense of community ownership of the program.

Appendix A: Green Pricing Case Studies

The following case studies represent some of the best examples of green pricing programs at public utilities in the United States. The following is not a list of the Top 4 green pricing programs. Rather, the utility programs included in the list were selected to demonstrate a variety of approaches that have been used successfully by a diverse group of utilities. Each case study focuses on the particular element that has made the program stand out from its peers.

These utilities have demonstrated that successful green pricing programs can be developed whether the utility is urban or rural; is located in the West, Southeast, or Midwest; uses wind or other renewable resources; is a million-customer utility or has a few thousand customers; is a municipal utility or a T&D coop; purchases renewable energy or builds their own renewable facilities. Public utilities have shown that a variety of approaches can work, so long as these themes are adhered to: working with environmental constituents, building new renewables, and using low-cost marketing channels. These common threads utilized by the utilities are articulated in the body of the paper.

1. **Sacramento Municipal Utility District's GreenergySM Program.**
2. **Austin Energy's Green Choice Program.**
3. **Tennessee Valley Authority's Green Power Switch.**
4. **Moorhead Public Service's Capture the Wind Program.**



State	California
Utility Name	Sacramento Municipal Utility District
Utility Type	Municipal utility with 530,000 metered customers
Program Name	Greenergy SM
Program Start Date	1997
Capacity of Program	8.3 MW
Fuel Types Included	Landfill Gas, Small Hydro, Wind
Renewable Product Mix	71% Landfill Gas, 2% Small Hydro, 27% Wind
Customer Participation Rate	3%
Residential Renewable Product Price	50%: \$3/month or 100%: \$6/month
How Product is Sold	50% or 100%
Price of Default Electricity Service	\$0.07378 to \$0.15688/kWh
Website	www.smud.org/green/index.html
Contact Information	Jim Burke at jburke@smud.org

Buzzworthy: GreenergySM is the third largest green pricing program in the country based on the number of customers enrolled, with very innovative marketing approaches. SMUD is the 6th largest municipal utility in the country, with an aggressive green pricing program.

Customer Value Proposition: Participating customers pay an additional \$6 per month for purchasing 100% renewable energy, \$3 for a 50% green option. The renewable source is mainly landfill gas, but they also include 2% small hydropower. In addition, they are just about to bring 27% of their mix from wind in the form of tradable renewable certificates purchased from the Stateline Project in the Pacific Northwest. SMUD purchases the landfill methane output from Sacramento County's Kiefer Landfill.

How They Achieved Success:

SMUD has consistently applied proven marketing tactics used for other consumer products to its renewable energy products. When SMUD developed the GreenergySM product, there was very little marketing data available on green power marketing. A lack of data is limiting for a green pricing product manager, and program management saw the importance of developing baseline data on which to compare various marketing efforts. “The primary recommendation for other utilities looking to grow green pricing programs, would be to perform a quick marketing audit to determine each marketing channel’s relative performance and determine an approximate cost per sale for your advertising, mail, event and other marketing tactics. Once you have that information, you can accelerate the winners and abandon the losers,” said SMUD’s GreenergySM Program Manager, Jim Burke.



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SMUD's green power marketing model is built around the bill package calendar and uses bill stuffers, and tear-off coupons on payment envelopes. Additional marketing tactics including direct mail and retail partnerships are used to fill in gaps in the calendar to create a portfolio of channels to deliver the green power message.

The GreenergySM program attracted customers from a variety of channels in 2002 including:

- 42% via bill inserts
- 32% via direct mail
- 18% via partnerships
- 5% via call center sales
- 3% Other

The program strives to get seven impressions in front of a customer in a year's time. Last year SMUD sent about 200,000 pieces of direct mail in batches of 5,000 to 10,000 using a market profile tool to determine the target market. They then analyzed the response rates. They have found that glossy materials suppress response. "You are going after an early green adopter, and they are looking for product integrity, not a slick product," said Burke. SMUD uses traditional testing methods like surveys and focus groups to determine customer preferences as well as guerilla marketing efforts that test marketing approaches and messages in small mail campaigns to see which appeals perform best.

GreenergySM has found considerable success through partnerships with the retail chains Starbucks coffee and Jamba Juice. These co-branding efforts place GreenergySM collateral in coffee and juice shops across the SMUD service territory. For example, customers who sign up for GreenergySM receive a \$15 Starbucks gift card when they commit to participating in the program for six months. SMUD has signed up about 1,000 customers through this channel. According to SMUD, these can be strong performers but are somewhat expensive due to the amount of labor and printing required. SMUD has to purchase the gift cards for these initiatives. SMUD uses partnerships to build product awareness and attract people who do not react to mailers.

SMUD's inbound call center has delivered a large number of customers to the GreenergySM program at a low cost. An incentive program has been established for the call center employees who sell the green product. This has resulted in over 900 sales, at a cost of about \$12 each including labor.

Customers that participate in SMUD's solar rooftops program and energy efficiency programs are also interested in GreenergySM. Some of their highest mailer responses have been with customers who participated in energy efficiency or solar programs. SMUD also does some cross-promotion with their shade-tree program. For example, the GreenergySM materials are presented in tree stewardship classes.

In sum, SMUD employs a common-sense approach to marketing. This includes the following:



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- 1) Track response to each marketing campaign. Set up your program so that you will be able to determine the results. For example, if you do a mailer with a business reply card, include a response code so that you can track the response back to the campaign.
- 2) Diversify your marketing channels. What attracts one customer may not attract another.
- 3) Drop the losers and re-do the successes. Through this approach, SMUD has been able to improve their average response rate for direct mail to 1.42% for 2001.



State	Texas
Utility Name	Austin Energy
Utility Type	Municipal utility with 340,000 metered customers
Program Name	GreenChoice
Program Start Date	2000
Capacity of Program	87 MW
Fuel Types Included	wind, landfill gas, hydro, solar
Renewable Product Mix	79% wind, 17% methane, 3% hydro, >1% solar
Customer Participation Rate	residential: 2.2%, commercial 0.6%
Residential Renewable Product Price	\$0.0285/kWh
How Product is Sold	100% renewable
Price of Default Electricity Service	\$0.0602- \$0.0782/kWh
Website	www.austinenergy.com/greenchoice/
Contact Information	greenchoice@austinenergy.com

Buzzworthy: Austin Energy's Green Choice program supports more new renewables than any other program in the country, featuring an innovating pricing and marketing approach that has succeeded in attracted substantial sales to non-residential customers.

Customer Value Proposition: participants in the GreenChoice program see the electric bill standard fuel charge (currently 1.77 cents per kWh, but is subject to fuel adjustment) replaced by a GreenChoice charge of 2.85 cents per kWh of electricity used. This means that customers typically pay about one cent more per kWh to help support the renewable energy provided by GreenChoice. The flat green rate provides customers with a price hedge against volatile fossil fuel prices. Residential customers receive 100% of their energy supply from renewables; non-residential customers that use above 700,000 kilowatt-hours annually may participate through purchases of 10% of their load.

How They Achieved Success:

A major selling point for Austin Energy's GreenChoice product is that while fossil fuel prices are volatile, their product is offered at a fixed rate. Texas is blessed with strong winds and the motivation to tap them. GreenChoice's largest resource consists of new wind turbines in West Texas. The program also receives electricity from four new landfill methane gas projects located around Texas. Austin Energy has signed 10-year contracts for electricity from the wind and methane gas projects outlined above. The price for that electricity will remain the same for the life of those contracts, allowing GreenChoice customers a way to hedge against fossil fuel price volatility. At one point the price of their



Public RENEWABLES PARTNERSHIP

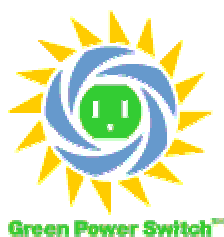
renewable energy product was actually lower than the price of their default service, creating a "negative premium" for renewable energy customers.

Austin's GreenChoice employs a full time marketer working on outreach to businesses. The program has utilized several successful tactics to bring non-residential customers on board. First, they provide personal attention through visits to local businesses. This allows the opportunity to educate businesses about the program, and makes the program memorable by putting a personal face with the intangible product. GreenChoice offers an advertising incentive to commercial buyers. Once the customer commits to at least a five-year purchase of renewable energy meeting a specified minimum percent of customer load, AustinEnergy acknowledges GreenChoice member businesses through:

- Austin Energy Web site
- Print advertisements
- EnergyPlus customer newsletter
- Billboard advertising
- Theatre on-screen advertising
- City Council Recognition

This provides tremendous public relations value to the purchasers, and helps build awareness of the GreenChoice product.

The GreenChoice business customers, who include heavy hitters such as Advanced Micro Devices, 3M, IMB, Kinkos, and State agencies, have seen the flat-rate pricing as fair. "It may take a little time to explain the pricing structure to customers, but eventually they understand it and like it," say Mark Kapner, Austin Energy's Manager of Conservation and Renewable Energy.



State	Portions of Alabama, Georgia, Kentucky, Mississippi, North Carolina, Tennessee, and Virginia
Utility Name	Tennessee Valley Authority (TVA)
Utility Type	Federal agency with 158 distributor utilities in 7 states
Program Name	Green Power Switch
Program Start Date	2000
Capacity of Program	8 MW
Fuel Types Included	wind, landfill gas, waste-water treatment, solar
Renewable Product Mix	19.8% wind, 1.4% solar, 15.1% landfill, 63.7% wastewater
Customer Participation Rate	less than 1%
Residential Renewable Product Price	\$0.0267/kWh
How Product is Sold	blocks of 150kWh for \$4
Price of Default Electricity Service	depends on individual distributors
Website	www.tva.com/greenpowerswitch/index.htm
Contact Information	

Buzzworthy: Green Power Switch is in the top 10 of all green pricing programs for the number of participants and amount of renewables supported. TVA used accreditation to build stakeholder support for their product. They are a centralized organization with T&D members that market the product, and have several high profile government and large business customers.

Customer Value Proposition: The renewable energy product is sold in monthly blocks of 150 kWh for \$4 each, which consist of: 116 kWh of methane gas, 32 kWh of wind, and 2 kWh of solar power.

How They Achieved Success:

There are three elements that set TVA apart from other green pricing programs:

- Development of grassroots support.
- The hub and spoke model of centralized planning and regional marketing.
- Unflinching executive level support.

TVA's Green Power Switch has faced numerous hurdles from the start. TVA faced the administrative burden of selling its product through 158 distributors in seven states, sourcing renewables in the Southeast (a region with limited wind resources), and marketing



to customers that score lower than average for environmental consumerism¹⁴. But TVA's enthusiastic program manager Garry Harris accepted the challenge and has built an outstanding program despite the odds.

Development of Grassroots Support

"What has made this program work is true level of trust that is developed between TVA, power distributors and the environmental community - we are all pulling for the same cause," says Gary Harris. Despite sometimes differing view points with local environmental groups like the South Alliance for Clean Energy, TVA's engaged them early and often. And despite the fact that SACE had a history of opposing some of TVA's business decisions, SACE was able to see that a utility's good deeds deserve praise and partnership.

Listed below are several tips on how Green Power Switch works with local environmental groups:

- Be aware of the different environmental organizations that exist in your area. Find the organizations that are willing to be collaborative and have an understanding of the utility industry.
- Bring environmental groups in early in the planning process and give them some ownership and responsibility in the process. That will help build a relationship that makes them feel ownership in the program.
- You need to understand where each other are coming from - you cannot discount the importance of that. You must understand the interests of the environmental community, and they need to understand the interests of a public utility.
- Make it clear that each side may need to give some ground, and not be looking to advance a particular cause.
- Keep the environmental community involved over time.
- Involve people on the front end - power distributors, your Board, and environmental constituents. The more you can give them a clear role and involve them, the better. Be open and honest.

The Green Power Switch leadership team feels fortunate to have SACE as a partner and key supporter. TVA and SACE have been able to develop a positive working relation that keeps other potential issues separate from support for the Green Power Switch program. TVA and SACE co-sponsor events which are good community building opportunities for the utility, and adds tremendous value as SACE actively promotes Green Power Switch to its members. That's the kind of positive promotion that money cannot buy.

Hub and Spoke Distributor Model

TVA is America's largest public power company, with 29,469 MW of generating capacity. Through its 158 locally owned distributors, TVA provides power to nearly eight million residents. The Green Power Switch program is marketed by participating distributors. TVA is highly dependent upon getting the distributors interested in participating and

¹⁴ Platts Research & Consulting. Market Research Survey II: Finding Green Energy Buyers. Boulder, CO. 2002.



making it a successful program. The Green Power Switch leadership team offers the following advice on how to make this approach work:

- **Support the Distributors:** You need to be willing to give the distributors the support they need. Distributors have not marketed a program such as this before. Green power is a new product that the utilities and most of their customers have not heard about. The distributors need to promote and sell this product. Be aware that some distributors will be better at marketing than others, and track their success. TVA provides assistance to distributors in the form of advertising, support dollars, marketing materials and public presentations. TVA brings in the participating distributors for training and provides them with materials, and then works with distributors to do local training as well. Green Power Switch has found that rural coops demographic make-up does not yield the same level of new customer opportunities as urban markets. Therefore do not over invest resources in some rural coop markets
- **Set Realistic Expectations:** Distributors do not expect green pricing to be a time consuming part of their operations -- and you cannot expect them to give it primary attention when compared to their core business. Make their participation as easy as possible, and help them set realistic targets. TVA has a template marketing plan, and works with distributors to create a local version that includes goals. Completion of the marketing plan is a required element of distributor participation. Creating a plan helps the distributor determine the activities they will need to undertake that year in order to achieve their goals, while simultaneously allowing TVA to budget their support materials, sponsorships, and other activities for the year to support that distributor. Over time, the planning feedback loop will provide baseline data for distributors to determine how to spend their money.
- **Brand the Product:** With Green Power Switch, the distributor "owns" the relationship with the customer. But the TVA brand is on the product. That has worked out well in terms of building economies of scale for renewable facility installation and standardizing marketing resources, which has resulted in lower costs for participants and increased awareness of the product. The distributors like the brand and the Green Power Switch logo. TVA produces marketing materials and collateral that can be used by all distributors, which is easier and more standardized for everyone. The distributors can customize the materials with their own contact information.
- **Site Facilities:** TVA sources the renewable supply on behalf of all distributors participating in Green Power Switch. In doing so, TVA takes a regional approach to siting facilities so that they are in high visibility locations distributed across their service territory. As a result, facilities exist near regional customer bases, allowing customers to visit these sites with minimal travel and feel more ownership of the resources. TVA works with distributors on selecting appropriate nearby locations. This is a high-touch approach, but offers payback in terms of increased customer participation.



Executive Level Support

TVA's Green Power Switch has received tremendous support from its Board of Directors. The program is a direct extension of the TVA mission regarding regional environmental stewardship. The Board members have participated in the dedication of the renewable facilities. Having strong support from executive management encourages TVA employees to actively provide support when called upon. "The TVA Board has been a positive supporter of Green Power Switch from the start. But the real payoff comes when you show them success in terms of performance. If the response from consumers, power distributors, environmental community and media is positive, that will drive encourage the Board to continue being to be supportive. Define the program's business case from the start. Don't let your early enthusiasm for the program drive unrealistically high performance targets. Ask for Board support early, and then quickly demonstrate the program's success to the Board. The more you can demonstrate the viability through positive results the better" says Harris.



State	Minnesota
Utility Name	Moorhead Public Service
Utility Type	Rural municipal utility with 13,500 metered customers
Program Name	Capture the Wind
Program Start Date	1998
Capacity of Program	1.5 MW of wind
Fuel Types Included	wind, hydro
Renewable Product Mix	33% wind, 67% hydro
Customer Participation Rate	7%
Residential Renewable Product Price	\$0.005/kWh
How Product is Sold	1000 kWh block or 100%
Price of Default Electricity Service	\$0.048/kWh
Website	www.mpsutility.com/capture.htm
Contact Information	mps@mpsutility.com

Buzzworthy: Capture the Wind has the highest participation rate of any green pricing program in the country -- 7% of their customer base has joined the program. They managed to fully subscribe their first wind turbine in two and a half weeks, and their second turbine in four weeks -- all of these accomplishments were achieved with minimal advertising.

Customer Value Proposition: The product is sold either in 1000 kWh blocks for \$5 each, or as 100% of a customer's electricity. Non-residential customers must purchase at least 1500 kWh. The energy is 1/3 new local wind and 2/3 WAPA hydropower.

How They Achieved Success:

So, how do you become the green pricing program with the highest participation rate in the country? "The number one thing is credibility with customers," says Christopher Reed Moorhead Public Service's energy services and marketing director. "Selling the program is dependent on trust, especially at the start." MPS took several key steps to ensure that trust was built with constituents:

- **Involve Local Stakeholders Early and Often:** Christopher Reed recommends working with local stakeholders even before doing preliminary program design. Including stakeholders in program design can payoff. During program design, Christopher invited



Minnesotans for an Energy Efficient Economy and Clean Water Action to review the program. "Your constituents will have environmental concerns -- if you do something to alienate the environmental community, then you have shot yourself in the foot," says Reed. As a result, Clean Water Action featured Capture the Wind in their newsletter and offered to do a direct mail piece to all of their members in the MPS service area along with a phone call follow up. Chris' largest wind customer is Minnesota State University Moorhead. Chris talked with their physical plant director on a weekly basis during program design, and they ultimately agreed to purchase \$5000 of renewable energy per year. The university sees this as a way to promote the school to prospective students and get public relations benefits.

- **Selecting a Local Site:** MPS chose one that is visible to a good portion of the customer base, as the turbines are 260 feet tall and the landscape is flat.
- **Recognize Customers in a Tangible Way:** MPS engraves customer names on the site of the turbine, and they provide customers with collateral including buttons and hats, which in turn increase product awareness. MPS invited program participants to the opening of the wind facility.
- **Build Awareness:** Build awareness through press releases, which are low cost. MPS also gets face-time by attending the local homes show. MPS has done limited direct mail to all customers, which included an easy-to-use postage-paid tear-off mailer to sign up. Since the initial program launch, Christopher Reed has formally talked with about 1,000 potential customers through channels such as Kiwanis and Rotary clubs, high school classes, etc. "It helps to talk directly with potential early adopters such as environmental groups, universities, and progressive businesses," says Reed.
- **Word of Mouth and Earned Media Mean a Lot:** Word of mouth and earned media are free of charge and are trusted sources of information by the public. MPS was able to attract significant local media coverage at product launch. Customers were allowed to sign up for Capture the Wind at the launch, and that provided a great visual for the media. They built credibility at the launch by inviting AWEA, Windustry, the Mayor, and other notable supporters. All the local television networks picked up the event that week. They also received radio coverage - and gave away kites to people who could "name that windy tune". By making it fun and interesting, MPS got great coverage and did not pay a penny. As a result, MPS has not relied on much advertising.
- **Be Honest:** Christopher Reed knew that the MPS Board and City Council would need to buy in to the program. In preparation and to build trust, Christopher wrote a white paper on wind energy and made an effort to publicize the results. Fortunately for Christopher, the trust with customers was established over decades of time in all areas of service - error-free billing, reliability of power, and courteous service. As a result the Board, City Council, and the consumers support the program.



Appendix B: Information Resources

Websites:

Center for Resource Solutions Green Pricing Accreditation Program
www.resource-solutions.org/greenpricing.htm

Green Power Network
www.eren.doe.gov/greenpower/pricing.shtml

National Renewable Energy Laboratory
www.nrel.gov/

Regulatory Assistance Project
www.rapmaine.org/green.html

U.S. DOE Energy Efficiency and Renewable Energy Network
www.eren.doe.gov/

U.S. EPA Green Power Partnership
www.epa.gov/greenpower/

WAPA Renewable Resources Program
www.es.wapa.gov/renew/

Reports

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Swezey, Blair and Lori Bird, "Utility Green Pricing Programs: What Defines Success?" NREL/TP-620-29831 Golden: CO: National Renewable Energy Laboratory, August 2001. www.eren.doe.gov/greenpower/29831.pdf



Wiser, Ryan; Mark Bolinger, and Edward Holt. "Customer Choice and Green Power Marketing: A Critical Review and Analysis of Experience to Date." LBNL-46072. July 2000. <http://eetd.lbl.gov/EA/EMP/>.



Appendix C: Innovative Marketing Practices in Green Pricing

The Center for Resource Solutions compiled the following list of innovative practices in marketing utility green pricing programs. This is not a definitive list, but rather serves as a list of marketing techniques that have been proven successful by at least one utility green pricing program. For each recommended practice, a website resource is provided for more information.

RESIDENTIAL:

- Work with local environmental groups to target their membership with direct mail. (www.cleanenergy.org/greenpower/index.html)
- Send two compact fluorescent light bulbs to each residential customer - with an explanation that the resulting reduced monthly energy use should help offset the premium for renewables. (www.greenla.com).
- Work with religious organizations to recruit customers. Some renewable energy marketers have offered a small payment to the church for each parishioner who signs up for green power, or offers a complimentary energy efficiency audit to the church/temple. (www.theregenerationproject.org)
- Work with area schools to create a renewable energy calendar. Students submit artwork with various green power themes, top twelve submissions appear in the calendar. (<http://38.144.192.166/education/artcontest/gallery.html>)

NON-RESIDENTIAL:

- Window stickers: Develop a static window sticker for use by businesses customers that buy a significant amount of renewable energy (www.tva.gov/greenpowerswitch/green_mainfaq.htm)
- Place an ad in the local newspaper announcing business purchases of renewable energy. (www.austinenergy.com/greenchoice)
- Use the following resources to identify "low hanging fruit" of non-residential customers in your service area:
 - International Council for Local Environmental Initiatives (www.iclei.org)
 - Business for Social Responsibility (www.bsr.org)
 - CERES (www.ceres.org)
 - Global Environmental Management Initiative (www.gemi.org)
 - ISO 14001 (www.iso14000.com/)
 - U.S. Green Building Council/LEED (www.usgbc.org)
 - The Natural Step (www.tns.org)
 - World Resources Institute (www.wri.org)
 - Pew Center on Global Climate Change's Business Environmental Leadership Council (www.pewclimate.org/belc/)
- Partner with local businesses to offer a sign-up bonus. For example, Sacramento Municipal Utility District joined with local juice bar chain Jamba Juice (www.smud.org/jamba/index.htm) and Starbucks (http://www.smud.org/news/02archive/0404_starbucks.html).



Public RENEWABLES PARTNERSHIP

- Offer to do information session or renewable energy procurement workshop with local businesses. (www.green-e.org/workshop.html)
- Work with the EPA's Green Power Partnership (www.epa.gov/greenpower) to identify businesses that are interested in green power procurement.

ALL CUSTOMERS:

- Distribute a newsletter for subscribers of your program with updates on number of participants, output of renewable facilities, new facility development, etc.
- Exempt customers from fossil fuel charges, so that they see renewable energy procurement as a price hedge against volatile fossil fuel prices. (www.austinenergy.com)
- Offer tour of the renewable energy facilities. (www.cleanenergy.org)
- Work with grassroots organizations to encourage their members to sign up. (www.cleanenergy.org, www.lawfund.org)



Center for Resource Solutions
Presidio Bldg 97, Arguello Avenue
P.O. Box 29512
San Francisco, CA 94129
P: (415) 561-2100
F: (415) 561-2105
www.resource-solutions.org