



EVALUATING VOLUNTARY CONSUMER ADOPTION OF GREEN PRICING PROGRAMS

IER WHITE PAPER
JUNE 2013

EXECUTIVE SUMMARY

This report evaluates information gathered from 31 utility companies around the country who offer “opt-in” Green Pricing Programs to their customers. The goal is to determine to what extent utility consumers will voluntarily pay higher utility rates to increase the use of renewable energy by their utility providers. The utilities represent 24 different states, a mix of rural and urban customers, and employ various forms of power generation. The average level of participation in these “opt-in” Green Pricing Programs among the 31 utilities was less than 2.1% with two-thirds of all utilities recording participation rates of 1% or less. Information was then evaluated against socioeconomic factors to determine if there was any correlation between economic standing and participation rates.

PURPOSE

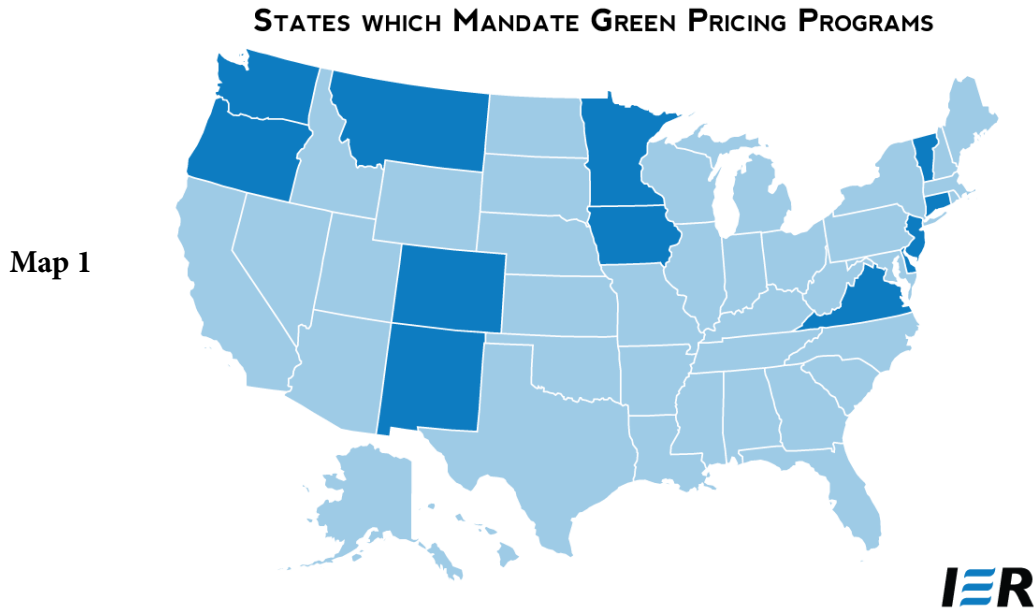
The purpose of this report is to evaluate participation levels of American energy consumers in choosing to ‘opt-in’ to green pricing initiatives offered by utility providers around the country. These Green Pricing Programs are offered and marketed as a way for environmentally conscious consumers to encourage the adoption and utilization of renewable energy in their communities. Specifically, this report hopes to examine whether consumer behavior matches the attitudes professed in polls related to adoption of, and payment for, increased usage of renewable energy by American consumers.

The report will address various factors that may impact consumer adoption rates in each locality including economic conditions, legislative history, or technical implementation. By evaluating the conditions surrounding consumers and their resulting market behavior one can develop a better understanding of the American consumer and their real attitudes toward the value of clean energy.

Information was gathered from 31 various utility companies from around the U.S that offer some form of Green Pricing Program to their customers. These utilities varied in size, location and energy mix and offer a unique look into the purchasing habits of energy consumers. The utilities were selected to offer a diverse sampling of rural and urban consumers spread across many states with various forms of program execution to give a well-rounded view of ‘opt-in’ acceptance and adoption in the U.S. Information was gathered through personal interview and interaction with utility representatives or through evaluation of public documents provided by each company.

GREEN PRICING PROGRAMS

Currently 12 states require that their utility providers offer some form of Green Pricing Program. Many others have followed in initiating fully-voluntary Green Pricing options. It is worthwhile to note here that each program is unique in its execution and is designed solely at the discretion of the individual utility provider in conjunction with applicable state law and requirements. Map 1 shows which states currently mandate Green Pricing Programs.



Green Pricing Programs work by charging participating customers a prescribed cost per kWh of green energy purchased. This charge varies by utility company, but ranges from 0.33¢ per kWh to 5.0¢ per kWh. Beyond the varying cost associated with each program is the actual good or service a consumer purchase is assigned.

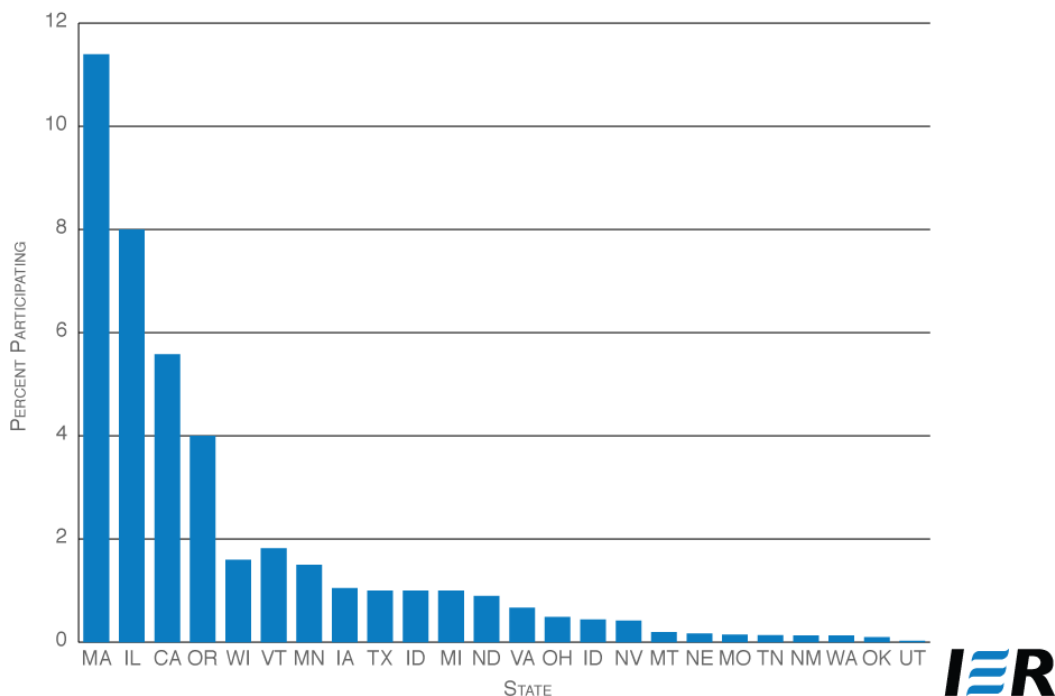
In some cases, consumer purchases are used to directly increase renewable energy production and usage within the customers' local utility power grid by aiding in development of power generated by the local utility itself. In many cases, the renewable energy sold to a customer may not be produced by the selling utility. This may be due to economic or geographical limitations or regulatory structure. In this case, the renewable energy is purchased by consumers in the form of a Renewable Energy Certificate or REC. Each REC represents 1000 kWh and allows consumers to claim utilization of green energy even if their local utility does not directly offer such options. Many times the actual power generated and represented by a purchased REC comes from another state or region entirely separate from the customer. A third form of Green Pricing Programs aim to ease development costs associated with increasing production of renewable energy systems. Under these programs, a utility establishes a fund where consumer 'opt-in' revenues are used to build and develop greater renewable energy systems directly operated by the local utility. The return on these consumer payments may not be immediate, but would eventually help the utilities to increase the role of green energy in its energy mix.

MEASURE OF PARTICIPATION

Attempts were made to contact 56 utilities whose programs are logged on the Department of Energy's Website and were consolidated by the National Renewable Energy Laboratory in Golden, Colorado. Information was gathered via phone, email and web. Of the 56, information was gathered from 31 utilities offering voluntary Green Pricing Programs. The information recorded shows the total number of energy customers who chose to participate in the program. That raw number was then converted to a percentage for easier comparison. Participation ranged from a high of 21% to a low of .03%. Average participation was 2.1% and there was a median value of 0.95% (n=31). Two thirds of all utilities reported a participation rate of 1% or less. Figure 1 below shows the data on an average, state-by-state basis.

Figure 1

PARTICIPATION RATE OF UTILITY CUSTOMERS IN GREEN PRICING PROGRAMS



POLLING RESULTS

As the data gathered from utilities has shown, consumers rarely choose to 'opt-in' to accept a renewable energy surcharge on their electric bill even though participation, in many cases, resulted in nominal bill increases. The next step of this analysis was to determine if this data matches up with polling data from around the country on the subject. The numbers gathered by various polls in individual states and nationwide show a large chasm between predicted consumer mentality and actual consumer behavior. Figure 2 highlights results from a poll administered in Ohio in February of 2012 which asked about citizens feelings on energy related topics. One question in particular related directly to this study.

Figure 2

“The average Ohio family spends nearly \$100 per month on electricity. Supposing for a moment that your electricity bill averages \$100 per month, would you be willing to spend up to \$3 dollar extra per month to buy more electricity from clean energy sources like wind and solar power, in order to reduce the use of fossil fuels, like coal?”

58.5%	Yes
33.9%	No
3.1%	Maybe/possibly (volunteered)
4.4%	Unsure/no answer

Source: <http://www.awea.org/newsroom/inthenews/loader.cfm?csModule=security/getfile&pageid=21710>

That number is considerably higher than the 2.1% of surveyed customers who actually choose to pay for such a program, and polling from across the country shows a similar disconnect in other markets. In North Carolina, 42% of those asked said they would be willing to pay more for renewable energy from their utilities.¹ This is on the lower end of public support, in fact: 70% of Floridians,² 89% of Michiganders,³ and 67% of Americans overall have said they would support for Green Pricing Programs.⁴

RENEWABLE PORTFOLIO STANDARDS

Another dimension of this analysis is the interaction of opt-in programs with Renewable Portfolio Standards (RPS) established across the country. Most states, 29 of 50 and the District of Columbia, have established RPS standards in an effort to increase the share of energy generated within the states from renewable sources. These standards vary widely from state to state, but all aim to increase a states use of renewable energy to a prescribed level by a predetermined date. Most states work to tailor their RPS program to fit their geographically accessible renewable energy sources. Others set targets for new or limited technologies that they wish to see grow within the state.

Many utilities direct the increase of renewable energy into their grid automatically but retain the voluntary Green Pricing options for their customers as a way to lower the financial costs associated with mandated renewable development. Map 2 shows where RPS programs have been initiated around the country.

1 <http://www.nccivitas.org/2013/voters-oppose-paying-more-for-green-energy/>

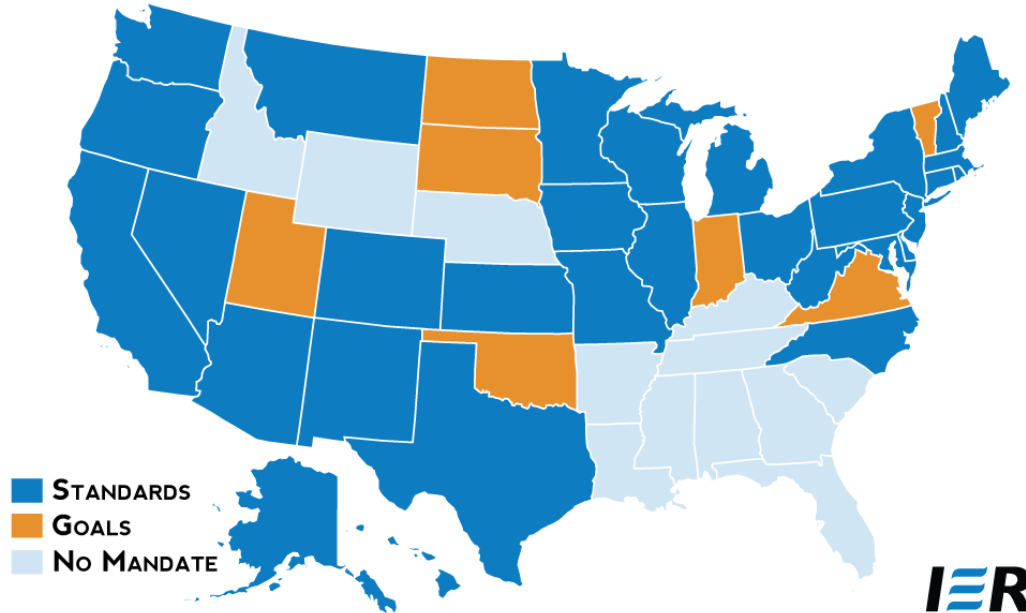
2 <http://www.floridatxwatch.org/resources/pdf/11102010nrFloridiansReadyEmbraceRenewableEnergy.pdf>

3 <http://www.mepartnership.org/wp-content/uploads/2012/02/2012REAMPCleanEnergyResultsFINAL.pdf>

4 <http://www.appliedmaterials.com/newsroom/news/summer-solstice-survey-shows-us-consumers-want-more-solar-energy>

Map 2

**STATES WITH RENEWABLE PORTFOLIO STANDARDS
(MANDATORY) OR GOALS (VOLUNTARY), JAN. 2012**



Source: N.C. Solar Center at N.C. State University, Database of State Incentives for Renewables and Efficiency <http://www.eia.gov/todayinenergy/detail.cfm?id=4850>

Note: The map includes West Virginia as a State with a Renewable Portfolio Standard, although the Interstate Renewable Energy Council categorizes it as a goal State rather than an RPS State.

To the extent that consumers are even aware of them, these RPS policies may actually act as a deterrent for some consumers to support Green Pricing Programs. States who have issued RPS standards pass the additional costs of renewable energy adoption and generation onto all customers. Energy costs in states with RPS standards are almost 40% above those without.⁵ This may be a factor explaining some of the discrepancy between stated values of consumers and actual behavior in regards to Green Pricing as consumers may feel that by paying a surcharge in the form of a statewide RPS they are “doing their part.” However, the participation rates among RPS and non-RPS states in Green Pricing Programs responding in this report are indistinguishable and causation must be found elsewhere.

⁵ Institute for Energy Research, Energy Regulations in the States: A Wake-up Call, <http://www.instituteforenergyresearch.org/pdf/statereport.pdf>

INCOME AND EDUCATIONAL ATTAINMENT SIGNIFICANCE

While evaluating the data gathered, there were certain utilities that reported participation rates significantly higher than the others in the data set. To determine if socioeconomic variables effect participation, the top 3 utilities in terms of participation were compared to the bottom 3 on the basis of median household income and college graduation rates. These figures effectively represent the top 10% and bottom 10% of the study. Figure 3 highlights the statistics among the two groups.

Figure 3

Utility/City	Green Pricing Participation	Median Income of Customers	College Graduation Rate of Customers
Palo Alto Utilities Palo Alto, CA	21%	\$89,412	69.4%
Wellesley Municipal Light Plant/Wellesley, MA	11.4%	\$114,680	75.3%
Naperville Public Utilities/Naperville, IL	8%	\$89,882	59.3%
Top 10% Average	13.5%	\$97,991	68%
Callam County PUD/Callam County, WA	0.13%	\$35,855	14.1%
Public Service of Oklahoma	0.1%	\$29,439	14.3%
St. George Energy Services/St. George, UT	0.03%	\$40,323	24%
Bottom 10% Average	0.09%	\$35,205	17.5%



This data shows the average participation rate of the top 10% of respondents to be 150 times higher than that of the bottom 10%. The median income and college graduation rates of these utilities are also 176% and 288% greater than the bottom 10% of participating utilities respectively.

CONCLUSION

The data in this report clearly highlights the gap between stated values of consumers and the reality of their actions in the marketplace. There are many variables to consider deeper to determine exact causation in this case, and further consideration should be given to define exactly why this chasm exists. Individual state legislation and RPS standards may have an effect on consumers, although in our data set that conclusion did not bear out.

Furthermore, effectiveness of marketing these Green Pricing Programs to consumers may be widely varied between utilities and have an impact on consumer participation. The psychology of participation in a voluntary program without universal participation is another interesting avenue to pursue. The only conclusion to be drawn from this report is that consumers see Green Pricing Programs as an economic decision and that the direct economic consideration of higher utility bills takes precedence over the indirect ideal of greater renewable energy production in the future. In the argument for expansion of renewable energy, much emphasis has been placed on a consumers' willingness to pay.

Our report makes it clear that a customers' willingness to pay for a Green Pricing Program is directly correlated with their ability to pay and afford the added cost, no matter how small, of a program which offers a consumer no immediate tangible benefit, in exchange for a promise of future environmental gain.