

## Hydropower in Green -Pricing Programs—Buyer Beware

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### What's the Beef?

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There are now 850 electric utilities – nearly a quarter of all the utilities – offering green-pricing programs in the United States. These programs allow the utilities' customers to voluntarily pay a premium rate for the green product – electricity generated from renewable-energy.

Some utilities identify the specific renewable-energy facilities that are included in their green-pricing program, but most do not, and instead only disclose the various renewable energy types – solar, wind, biomass, geothermal and hydro– comprising their green-power product.

This lack of information about the specific facilities – particularly hydropower dams – from which electricity is sourced for green-pricing programs concerns the Hydropower Reform Coalition (HRC), because hydropower projects are not intrinsically “green.” While flowing water is a renewable-energy source, the cumulative, the cumulative impacts to local environment across the nation from converting water's kinetic energy to electricity is comparable to the impacts of fossil fuel power plants on a per megawatt basis.

Unless, the hydropower facility has received certification from the Low-Impact Hydropower Institute (LIHI), HRC does not consider electricity sourced from conventional hydropower projects to be appropriate to green-pricing programs.

As explained below, even after extensive research, HRC is only able to identify some of the hydropower facilities that are sourced in various green-pricing programs, and very few are LIHI certified.

### Birth of Green-Pricing

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The first green-pricing programs were implemented in the mid-1990s. Between 1993 and 1997, 13 utilities offered a green product at a premium rate. The impetus for green-pricing programs was the reluctance of most state legislatures and utility commissions to mandate programs – mainly Renewable Portfolio Standards and System-wide Benefits – that would require utility investment in renewable-energy systems. Voluntary green-pricing programs, therefore, appealed to politicians and regulators whose support for such a voluntary approach would highlight their support for renewable energy at the same time allow them to avoid political conflict; especially from those more concerned about rates than sustainable, low-impact energy, particularly the larger industrial and commercial ratepayers. Similarly, utilities supported green pricing because it fit their objectives of gaining green-power, marketing experience; enhancing corporate image; and fending off increasing regulatory and public pressure to do more about supporting renewable energy development.

## Green-Pricing Bare Bones

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The utility's customers agree to pay an extra "premium" for green-power. The "green-power" premium is justified due to the higher cost of generating "green" electricity. This premium is tacked on to the customer's regular monthly bill. In most green-pricing programs, the utility's customers' premium that is based on the number of 100 KWh blocks of green power they choose to purchase each month. Because the electricity is commingled in the transmission and distribution system, the utility cannot actually deliver the electricity from the renewable energy source to the customer's meter.

During the first generation of green-pricing programs, customers were paying a premium for the higher-cost electricity from renewable-energy facilities that utilities either owned or which were independently owned but for which the utility had contracts for the power.

As more utilities implemented green-pricing programs, direct ownership and/or direct power purchase contracts became the exception not the rule. Rather than obtain the actual electricity from a renewable energy facility, utilities contracted for the purchase of the so-called environmental attributes of the renewable energy via Renewable Energy Certificates (RECs).

The electricity is the tangible product produced from renewable energy, while the REC is primarily the intangible environmental benefits that purport to accompany the electricity. Ostensibly, the higher cost of electricity generated from renewable energy can be understood as the cost of providing the environmental attributes of clean electricity and this is the basis for the green-power program "premium." The electricity and its intangible benefits can be sold together as one product, or the electricity can be separated (unbundled) from its intangible benefits, which are then sold as separate products. One REC represents the environmental attributes of one-megawatt hour of renewable electricity, which are marketed and sold separate from actual megawatt hour of electricity. Thus, the actual energy can be sold to one utility, while the RECs can be sold to another utility. While the megawatt hour of energy is used immediately, the associated REC can be kept in suspended animation until sometime in the future when it is "re-united" with another megawatt hour of electricity that is used by the REC's current owner, at which point the REC is extinguished. A REC, then, can be conceptualized as a "deed" of intangible property (a commodity) whose ownership can change hands until the owner re-unites the intangible benefits of the REC with electricity, at which point the "deed" of intangible property is, thereby, extinguished.

RECs are available from REC marketers who purchase RECs from renewable generators and then resell them to utilities or end users (a few have their own generation as well). Some are active only at the wholesale level (that is, they sell only to utilities and to large end users), whereas others are largely retail vendors. Some marketers are nonprofits, some are utility subsidiaries, and some are for-profit companies. REC brokers facilitate market transactions. Brokers generally do not take ownership of the RECs at any point; rather, they act as matchmakers between sellers and buyers. Brokers list offers and bid prices for various types of RECs-differentiated by geographic location, generation type, and vintage.

Of course, the REC market depends upon the trust of buyers and sellers in the integrity of each REC. Most RECS are sold in the mandatory RPS market. When RECs are used for state RPS compliance, the state utility commissions typically require certification of the renewable energy facilities from which RECs are sourced and each REC is assigned a serial number. Usually, the RECs sold in the

voluntary, green-pricing market, however, are not subject to state certification requirements and are not assigned serial numbers, albeit RECs that have been RPS certified can be sold in the voluntary market, subject to one-time use only, of course. Voluntary certification programs are available to the voluntary REC market. Green-e is the most widely used voluntary REC certification and verification program, with more than a 60% market share of all voluntary renewable energy sold through the end of 2006.

## Hide the Hydropower Facility?

When a utility purchases energy directly from a renewable energy generator for its green-pricing program, the utility can readily identify the specific facility that is sourced for its green-pricing program. When a utility acquires RECs unbundled from the generator, the generator is identified in the REC. Most utilities, however, do not disclose the specific facilities from which they obtain energy and/or RECs. Even if the utility's customer were to request information about specific facilities from the utility, the utility may be prohibited by its contract with the REC seller from providing said information. Further, if RECs are Green-e certified, the only information that Green-e publicly discloses are the types of renewable energy sources; stating that confidentiality agreements with REC marketers and brokers prevent it from disclosing the specific facilities it has certified. At most, some states require utilities disclose the generic type of energy resource and proportion of each resource that comprise the green-pricing program product.

## **UTILITY TRANSPARENCY**

The Green Power Network, a project of the Department of Energy's National Renewable Energy Laboratory maintains a web listing of green-pricing programs and the types of energy resources that are sourced. Further research by HRC of those utilities listed by the Green Power Network as sourcing hydropower for green-pricing reveals:

- Twelve investor owned utilities, 52 municipal utilities, three G&Ts (serving 69 member coops and municipals), and one federal power authority (Bonneville Power Authority) do not currently source from hydropower.
- 12 investor-owned utilities, 150 municipal utilities, four public utility districts, 26 cooperatives, one Generation and Transmission Cooperative (serving 16 member coops) currently include hydropower in their green-pricing program (see Appendix I).
- Of those utilities currently sourcing hydropower, only three investor-owned utilities, one municipal, one public utility district and one cooperative identify the specific hydropower facilities.
- HRC contacted the ten utilities that actually purchase hydroelectric power for their green-pricing program for the names of the facilities: Four responded with information (two no longer purchase hydropower; two identified hydropower facilities).
- Interestingly some utilities identify the wind and solar projects but not the hydro facilities that comprise their green- power product.

## MARKETER TRANSPARENCY

Because HRC was unable to contact every utility individually and because six of the ten utilities HRC did contact chose not to respond, HRC also attempted to obtain this information from REC marketers. There are 15 REC marketers currently selling Green-e RECs sourced from hydropower projects.

- None of the REC marketing companies' websites identified any specific hydropower projects from which RECs are sourced (see Appendix II).
- HRC contacted three of the largest REC marketers to request information about the specific hydropower projects: 1) Sterling Planet and Powerex would not provide the names of any hydropower facilities from which the RECs market are sourced, citing this information as proprietary and explaining the release of this information would be of benefit to their competitors. 2) Community Energy provided HRC with a list of hydropower facilities from which its RECs have historically been sourced.\*
- Community Energy provided the names of 26 facilities, installed capacity and nearby town. After further research, HRC succeeded in identifying 1) the river in which the power plant is sited; 2) dimensions of the dam; 3) the mode of operation; and 4) FERC jurisdiction for all but three power plants (see Appendix III). HRC did not attempt to independently ascertain the historic and ongoing environmental impacts associated with these projects.

## CERTIFICATION TRANSPARENCY

Green-e itself refused HRC's request to provide any information about the hydropower generators which Green-e has certified. As mentioned above, Green-e explained that confidentiality agreements with its clients – the REC marketers – prohibit Green-e from publicly disclosing the specific hydropower facilities. Yet, the Green-e website contains a web page entitled "Tracking Attestations Received:" a chart of the individual renewable energy facilities that Green-e has certified that are tracked by the various regional power pool and ISOs' (independent system operator) tracking systems. This list of facilities includes wind, solar, geothermal, and biomass projects, but no hydropower project listed.\* Supposedly, all Green-e certified generators are tracked by the appropriate regional tracking system. For example, the NEPOOL public database of generators includes a Green-e certified hydropower project (Valley Hydro, NE-ISO asset #14623).

### Pig-in-a-poke? Caveat Emptor!

Fundamentally, the lack of transparency in green-pricing programs about specific hydropower plants goes against the grain of informed consumer choice, which is the hallmark of these programs: green pricing is predicated on customers' interest in supporting development of green energy. Utilities and many of their customers believe renewable energy generators are intrinsically "green and clean," and, consequently, do not see the need to disclose the specific facilities sourced in the green-pricing program.

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\* Community Energy markets Green-e RECs, but apparently its hydropower RECs are not Green-e certified.

\* This listing of generators by Green-e does not square with its aforementioned contention that it cannot reveal generators that have been Green-e certified due to confidentiality agreements with its client REC marketers.

Yet, there is certainly disagreement about whether all hydropower is clean and green as can be discerned by a comparison of state hydropower eligibility in state Renewable Energy Portfolio Standards' (RPS). A few states do not place any eligibility restrictions on hydropower; however, most do by stipulating only hydropower plants of a certain installed capacity or less as eligible. Since most states do not regulate utility green-pricing programs, RPS criteria do not apply to green pricing in those states. Nonetheless, state RPS influences utility and customer perception of renewable energy and can have a bearing on the energy and/or RECs that are available to green-power programs.

While there is awareness that many hydropower projects have significant environmental impacts and should not be considered clean and green – lack of greenhouse-gas emissions notwithstanding – there is as yet no common standard among state RPS programs or utility green-pricing programs by which to certify a particular hydropower project. What is common is the presumption that size matters when it comes to judging the green quotient of hydropower. Yet the size criterion is fundamentally illogical: if a hydropower plant greater than say 30 MW is not acceptable, then the impacts from seven 5 MW hydropower plants should not be acceptable. Clearly, size is not a valid proxy for impacts. Environmental impacts are site and project specific rather than size specific. Consequently, hydropower plants must be assessed on a case-by-case basis, which is why transparency in green-pricing programs is essential.

As indicated above, HRC, however, was not able to independently evaluate the specific hydropower. Serendipitously, while researching the hydropower facilities from which Community Energy has historically sourced its RECs, HRC learned that the operation of four projects impairs their respective water bodies. Given that HRC was unable to identify most of the hydropower plants currently sourced in green-pricing programs across the nation, HRC recommends:

- Customers should decline to participate in green-pricing programs that do not disclose the particular hydropower plants that are sourced.
- All states require utilities to disclose the individual hydropower project sourced for voluntary green-pricing programs.

The lack of transparency undermines the credibility of the utilities, the independent certifying agency, the REC brokers and REC marketers. Nonetheless, even if there were to be transparency, HRC does not agree that size is an acceptable criterion. HRC advocates instead that only LIHI-certified projects be eligible for green-pricing programs.