

Proposals for Wisconsin DG Buyback Rates

Background / Applicability

As part of PSCW Docket No. 6690-UR-117 “Application of Wisconsin Public Service Corporation for Authority to Adjust Electric and Natural Gas Rates,” buyback rates and various issues related to purchases of electricity from customer-owned generation were discussed. RENEW Wisconsin made a number of proposals related to buyback rates for customer-owned generation. Some of the issues discussed in this docket included:

- Use of LMPs as the Basis for Buyback Rates
- Long-Term Standard Buyback Rates and Price Floors
- Technology Specific Buyback Rates
- Expansion of Net Metering
- Legal Issues – included discussion of possible implications of revision to Section 210 of the Public Utilities Regulatory Policy Act of 1978 (PURPA)

The PSCW issued a memo on March 1, 2006 requesting the following:

“Commission staff will continue to work with RENEW, WPSC and the other stakeholders to analyze the issues discussed in this memo. Commission staff believes that it will be possible to achieve a consensus for resolving any differences that may exist. For those issues for which consensus cannot be reached, continued discussions will facilitate the development of alternatives that can be presented to the Commission in upcoming rate case proceedings next fall.”

A suggestion was made to differentiate the DG rates according to the distributed generation categories defined in PSC 119 – “Rules for Interconnecting Distributed Generation Facilities”. PSC 119 classifies DG facilities into four categories:

Category 1	20 kW or less
Category 2	Greater than 20 kW to 200 kW
Category 3	Greater than 200 kW to 1 MW
Category 4	Greater than 1 MW to 15 MW

PROPOSAL

Category 1 (*DG Facilities 20 kW or less*)

For small, renewable energy generation, defined as under 20kW in nameplate rating, net metering provisions would be maintained for these small generators, as defined in utility net metering tariffs (such as CGS-2 for We Energies customers) - APPENDIX A. A customer could alternatively elect to participate in RE buyback rates, as described below, suitable for their technology (wind, solar, biogas, etc.) as long as that tariff is not already fully-subscribed by their utility.

Category 2 (*DG Facilities greater than 20 kW to 200 kW*) and

Category 3 (*DG Facilities greater than 200 kW to 1 MW*) and

Customer would take service under the fixed-priced RE buyback rates suitable for their technology (wind, solar, biogas, etc.) as long as that tariff is not already fully-subscribed by their utility. If they take service under fixed-price RE buyback rates, it would be for an initial period of time, e.g. 10 years. At the end of this period, the RE buyback rate could be extended an additional period, as long as that tariff is not already fully-subscribed by their utility, or they would be switched to an avoided-cost-based rate. Non-renewable energy generators would use an avoided-cost-based rate.

To be consistent with Wisconsin state energy policy, which is intended to promote renewable energy production and to be consistent with the RPS provided for in Public Act 141, a “Standard Renewable Energy Buyback Rates” for customer-sited renewable energy systems would be created. The rates would have the following attributes:

- Simple, Comprehensible, & Transparent
- Fixed Prices Sufficient to Drive Development
- Lengths Sufficient for Profitability
- Prices Differentiated by Technology

New “Standard RE Buyback Rates” would be developed using a production-cost-based rate strategy based on the production costs of the applicable renewable energy technologies and sizes. Thus, the price will be set differently for solar, wind, biomass/biogas and other renewable energy systems. The maximum size distributed generation per customer would be set at:

- Solar Electric: 1 MW
- Biomass/Biogas: 1 MW
- Wind: 2 MW

The fixed prices under the new buyback rates would be in effect for a period of years to be determined, e.g., 10 years, to allow customers to rely on a fixed price for financing and recovering the initial investments associated with these systems.

For the standard RE buyback rates, the utility, with PSCW approval, would establish an aggregated participation cap of 10 MW with no time limit for new subscriptions. Also, a method of recovering the cost of these rates would be developed for the utilities.

Under this rate, ownership of all “green tags” and associated environmental credits flow to the utilities as a result of utilities paying a “premium” for this energy. This is consistent with state policy on renewable energy as it allows utilities to apply energy procured under this premium rate to comply with the Wisconsin RPS requirements from Act 141.

The key to developing these RE buyback rates would be selection of an appropriate method of determining the production costs of renewable energy technologies for specific generator sizes. An example production cost method based on break even points for several renewable technologies is found in APPENDIX B.

Category 4 (*DG Facilities greater than 1 MW, except wind which is 2 MW, to 15 MW*)

Customer would use an avoided-cost-based rate.

DG Facilities greater than 15 MW

(**or the upper limit of new FERC Small Generator PURPA requirements, in nameplate capacity**)

DG over this value would sell into the MISO market directly.

APPENDIX A: Net Metering Rates

Net Metering, referred to as "Net Energy Billing" in Wisconsin, is a policy tool that has been used to encourage customer-owned renewable energy generation. Wisconsin has had Net Metering provisions in place since 1983. Since that time, all utilities in the state have provided tariffs for full Net Metering up to generators 20 kW in size, for generators using Renewable Energy fuel sources.

For customers who have their own electricity generating units, net metering allows for the flow of electricity both to and from the customer through a single, bi-directional meter. With net metering, during times when the customer's generation exceeds their use, electricity from the customer to the utility offsets electricity consumed at another time. In effect, the customer is using the excess generation to offset electricity that would have been purchased at the retail rate. If more energy is generated in a period than they use at their premise, customers are given a credit at this rate that is applied against future billing periods.

In 1983, the Commission issued an order in dockets 05 ER 11, 05 ER 12 and 05 ER 13 adopting general policies to govern the purchase of electricity from customer-owned generating facilities by electric utilities. Since that time, the Commission has also adopted policy refinements in several Advance Plan proceedings and rate cases. The Commission ruling effecting "Net Energy Billing" was part of these dockets and not a State law.

Related Administrative Rules:

PSC 113.0817 Metering at point of interchange and for customers' operating generating equipment.
PSC 113.0926 Metering with one meter for net energy billing.

APPENDIX B: Standard RE Buyback Rate Method Example

One production cost method could use the break even points, for each technology, for determining how this rate could be set. The “break-even point” occurs when Revenue = Fixed Costs + Variable Costs. The break even point is the point at which the income from sales will cover all costs with no profit. Grants and incentives are not factored into the analysis due to their inconsistency over time and customer eligibility issues.

Example: Break-Even Analysis Method for a Municipal Wastewater Plant 300 kW CHP

Period of Analysis, years	10
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Fixed Costs		Rate	Calculated	Ext
System Cost, \$	\$ 900,000			\$ 900,000
Sales Tax, \$		5.5%	\$ 49,500	\$ 949,500
Business Tax Credit, %		0.00	\$ -	\$ 949,500
Effective Tax Rate, %		0.0%		
Adjusted Equipment Depreciation Basis, \$	\$ -		\$ -	\$ 949,500
TOTAL FIXED COSTS				\$ 949,500

Variable Costs				Ext
O&M, \$/yr		\$ 0.020		\$ 37,002
Replacement Costs, \$/yr				
Administration & Management Fee, \$/yr				
Insurance, \$/yr (city is self insured)	\$ -			\$ -
Land Expense, \$/yr	\$ -			\$ -
TOTAL VARIABLE COSTS				\$ 37,002

Financing Costs	Amount	Term, yr	Rate	Ext
Equity				
Debt	\$ 949,500	10	8%	\$138,241
TOTAL FINANCING COST				\$138,241

Energy Production	kW	CF	Calculated	kWh
Electrical Generation (less parasitic load)	300.00	0.80	2,102,400	1,850,112
Heat Produced (BTU/Yr) (hot water)		0.50	16,924,320,000	169,243

Simple Break-Even Analysis		100% Financed	Not Financed
Fixed Costs, \$/Yr	\$94,950		\$94,950
Variable Costs, \$/yr	\$37,002	\$37,002	\$37,002
Financing Costs, \$/yr	\$138,241	\$138,241	\$0
Production Tax Credit, \$/kWh	\$0		
Total Cost, \$/yr		\$175,243	\$131,952
Breakeven Point Rate, \$/kWh		\$0.095	\$0.071