



State of Wisconsin
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Department of Agriculture, Trade and Consumer Protection
Rod Nilsestuen, Secretary

Public Service Commission of Wisconsin
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To the Wisconsin Public Service Commissioners:

I want to thank the Wisconsin Public Service Commission (PSC) for its May 20, 2009 Briefing Memorandum State of Proceedings, regarding docket (5-EI-148) "Investigation on the Commission's Own Motion Regarding Advanced Renewable Tariffs." The memorandum does a good job of framing statewide interest in Advanced Renewable Tariffs (ARTs) and setting forth questions remaining to be answered. I am pleased to see the PSC's analysis found that the uniform use of buyback rates will stimulate the generation and use of renewable energy and foster economic development.

The PSC is asking for direction on its next steps. The first question posed by the Commission is "Should the Commission expand the availability and use of ARTs in Wisconsin?" The second question posed by the Commission is "Should the Commission require uniformity in the ARTs offered by Wisconsin utilities?"

I strongly believe Wisconsin can be a national and global leader in renewable energy with the implementation of a statewide, utility-wide, Advanced Renewable Tariff. It is time to follow the lead of the state of Vermont, with its feed-in tariff program that contains many of the key elements of successful programs found in Europe.

- Tariffs are differentiated by technology
- Tariffs are differentiated by size.
- Tariffs set on the cost of generation plus profit
- Profit set by a reasonable rate of return
- Long contract terms
- Regular program review

The critical importance of ARTs is giving the small-scale producers, such as farmers who are utilizing anaerobic digester technology to turn animal waste into energy, an equitable stake in renewable energy generation. ARTs encourage diversified generation of renewable energy, provide support, capital and long-term investment security to small producers and create beneficial economies of scale to leverage promising renewable energy ideas and technologies. Wisconsin's renewable portfolio standard was a critical first step in getting more renewable energy into the state, but on its own is not an adequate policy tool to allow small scale distributive energy that would provide a sustainable economic, social and environmental benefit to rural Wisconsin.

The Commission may wish to consult a recent report: "Feed-in tariffs in America – Driving the Economy with Renewable Energy that Works," published by The New Rules Project. This study notes: "Evidence from Europe suggests that a simpler, more comprehensive policy achieves greater renewable energy development, but at a lower cost and with greater economic and social benefits like local ownership. It is called a feed-in tariff (aka ARTs); a price for renewable energy high enough to attract investors without being so high it generates windfall profits. The tariff can be varied to spur new

Agriculture generates \$51.5 billion for Wisconsin

emerging technologies or to achieve social ends.”

A critical feature of ARTs is that the commission can have the latitude to design the tariffs so that they catalyze investment in areas that are not now attracting adequate private investment and, still, not overburden the general rate-payer.

Wisconsin utilities have no grounds to complain about ARTs under a uniform rate system because they can still make profits and the commission will still have the flexibility to regularly evaluate the tariffs to keep them fair to all. The study by the New Rules Project documents in detail how these tariffs allow for a much easier planning and financing process that will greatly benefit smaller projects in Wisconsin rural communities and agricultural sector. The most important part of the study is that modeling this tariff system for our neighboring state of Minnesota, the authors conclude with long-term tariff contracts (20-years) the rate payer would only see a \$0.41 cents per household per month increase. That small cost increase to the rate payer will result in a dramatic increase in statewide renewable energy for less than the typical cost of a cup of coffee.

Building Wisconsin's Signature Industries

During the last year, OEI has been contacted by hundreds of Wisconsin businesses seeking to develop renewable energy resources using agricultural waste, ag residues, or ag processing co-products and by-products.

Examples include:

- 1) A partnership between OEI, UW-Madison College of Agricultural and Life Sciences (CALs) and the Midwest Food Processors Association, led by the Del Monte company and BioFerm, a Verona company that has licensed technology from the Veissmann Co. a German leader in dry fermentation technology. This project, which enjoys strong support in the food processing industry, would establish a dry fermentation digester to convert sweet corn and other ag residues to methane to power a 3-5 megawatt genset.
- 2) A class of projects at Wisconsin's cheese plants whereby cheese plants END the practice of land spreading whey waste water on farm fields (a goal strongly supported by the leadership of the WI Department of Natural Resources) and, instead, pipe the wastewater to a local wastewater treatment plant where the lactose in the wastewater would be converted to methane to produce enough electricity to run the entire treatment plant. Two of these projects are now moving forward at Beaver Dam and in Marshfield. We see no reason why these projects cannot be replicated at most cheese plants and POWTS in the state, the challenge is that the buy back rate for the biogas varies so much that what makes perfect economic sense at one location cannot possibly cash flow at another.
- 3) The construction of the largest anaerobic manure digester in Wisconsin is being slowed by difficulties with variable tariffs between the utilities. A 5 MW digester planned by the StormFisher Co. has had difficulty in getting built because of issues like project caps on capacity size and widely varying tariffs.
- 4) Individual food processing companies, many of them quite large, have contacted OEI asking for assistance in deploying and financing bio-digesters of differing sorts. For example, in the Milwaukee area one company has proposed an extremely innovative bio-digestion technology that would not only produce significant heat and/or electricity for the plant but reclaim several hundred million gallons of process water used each year.

Dairy and food processing are two of Wisconsin's signature industries. They comprise a large part of Wisconsin's industrial base. We believe the Commission should consider authorizing a uniform biogas tariff for all biogas technologies (except landfill gas, which doesn't seem to have difficulty getting built under the current tariff regime). There is discussion in the biogas sector that a biogas tariff of less than 12 cents at peak and less than 9 cents off peak, with a project cap of 5 megawatts, could limit Wisconsin investments. The Commission working with NREL should model and study these tariffs and make sure that a project cap of 5 megawatts is not too restrictive. Contracts should be for at least 15 years and maybe 20 years, with return on equity levels provided to the owners of the average ROE provided to Class A utilities. The goal of ARTs should be to maximize our homegrown energy resources.

The third question posed by the Commission is “If the Commission chooses to require uniformity in ARTs prices, what prices might be appropriate?” We now have two sets of rates the commission could model, compare and contrast for Wisconsin, based on decisions made in the State of Vermont and a decision made with the Canadian Province of Ontario. I believe that the PSC, based on the assumption of a statewide, utility-wide policy, should model the policy on rates and technology deployment. As noted in the PSC memorandum, the U.S. Department of Energy’s National Renewable Energy Laboratory (NREL) has free technical assistance programs for state commission and the unbiased staff expertise on ARTs to assist our PSC staff. The commission can take the suggested rates of Vermont and Ontario and create a third proxy for Wisconsin to see what the impacts might be statewide.

The new state of Vermont feed-in tariff program has several specific policy components that could be reviewed in greater detail and contrasted with other options to see if they are appropriate for the Wisconsin market. These include:

- Program cap of 50 MW
- Project size cap of 2.2 MW
- Contract term: 20 years
- Wind energy tariffs
- <15 kW: \$0.20/kWh
- >15 kW: \$0.14/kWh
- Landfill and biogas tariff of \$0.12/kWh
- Solar tariff of \$0.30/kWh
- Future tariffs based on cost of generation plus profit less applicable tax credits and other incentives
- Profit set at rate of return of Vermont electric utilities

Some other sources for the Commission to consult on the ARTs rate structure are comments filed by the Florida Alliance for Renewable Energy (FARE) with the Florida Public Service Commission (proposed rules 25-17.400 and 25-17.420) and studies done by Summit Blue Consulting for the State of New Jersey Board of Public Utilities. These studies contrasted and documented the high costs of Renewable Energy Credits (RECs) with the cost of a feed in tariff (aka ARTs). This research showed that the RECs cost the taxpayer 57% more than (ARTs) using a 15-year length of term for the tariff.

The Wisconsin PSC should also examine rates for biomass to energy projects. Our state has large biomass feedstock opportunities for heat, and heat and power projects on a small and large scale. It is critical that the state develop a biomass-training program for the forest landowner and/or agriculture producer of biomass for both production and contracting to aggregator or other customer. Much uncertainty exists regarding dedicated biomass, best management practices, pricing, contracting, risk management, and more. The landowner needs to understand renewable energy credits (RECS), carbon sequestration credits and the value of agriculture and forestry land offsets especially under the likely Cap and Trade Program coming in the near future. We must work to assure agriculture and forest biomass producers are not disadvantaged. There are tremendous opportunities for a win-win-win scenario with the state policy and program by targeting marginal lands, creating buffers for other agriculture lands near waterways, enhancing habitat by limiting harvesting periods and building up greater carbon sequestration areas to address Global Warming policy needs. The key element will be state establishment of best management practices for growing energy crops. The commission may also wish to consider a local ownership premium for small scale biomass to energy projects, especially for community projects such as biomass for heat of a municipal building or fuel for schools type programs.

Another important step in advanced renewable tariffs has taken place in the Canadian Province of Ontario. It may also be wise to have NREL assist in comparing the feed-in tariffs of Ontario outlined below:

Ontario Power Authority's Revised Draft Feed-in Tariffs 2009				
13-May-09				
		1.649		0.777
	Years	€/kWh	\$CAD/kWh	USD/kWh
Wind				
Onshore*	20	0.0819	0.135	0.105
Offshore*	20	0.1152	0.190	0.148
Photovoltaics				
Rooftop or Groundmounted <10 kW	20	0.4864	0.802	0.623
Rooftop >10 kW<250 kW	20	0.4325	0.713	0.554
Rooftop >250 kW<500 kW	20	0.3851	0.635	0.494
Rooftop >500 kW	20	0.3269	0.539	0.419
Groundmounted <10 MW*	20	0.2687	0.443	0.344
Hydro				
<10 MW*	40	0.0795	0.131	0.102
>10 MW<50 MW*	40	0.0740	0.122	0.095
Landfill Gas				
<10 MW*	20	0.0673	0.111	0.086
>10 MW*	20	0.0625	0.103	0.080
Biogas				
<500 kW*	20	0.0970	0.160	0.124
>500 kW<10 MW*	20	0.0892	0.147	0.114
>10 MW*	20	0.0631	0.104	0.081
Biomass				
<10 MW*	20	0.0837	0.138	0.107
>10 MW*	20	0.0788	0.130	0.101
Bonus				
Aboriginal Ownership	20	0.0091	0.015	0.012
Community Ownership	20	0.0061	0.010	0.008
*Eligible for Aboriginal or Community Bonus.				
Inflation adjustment: 100% during construction (3 years), 20% during life of contract.				
http://www.powerauthority.on.ca/fit/Storage.asp?StorageID=10143				

The fourth question posed by the Commission is “Should utilities recover the costs associated with ARTs through ordinary rates or through voluntary Green Pricing rates?” The commission should review some the studies reference in this document, but it would seem the best approach is through ordinary rates to maximize the ability to spread out costs over all ratepayers. The Commission should also consider a system to add up the total cost of all the ARTs programs and distribute that to the participating utilities on a pro-rata basis relative to their electricity sales to end-users.

The fifth question posed by the Commission is “Should the Commission limit the total program size for ARTs offered by utilities, and if so, on what basis should the limits be established?” The proposal to have the National Renewable Energy Laboratory (NREL) model rates can assist in answering that question, and I strongly endorse the Commission having these rate models done in partnership with NREL.

I thank the Commission for this thoughtful and deliberative evaluation of ARTs and the willingness to further model and study a statewide rate structure. I appreciate the Commission considering the suggestions in this letter and recognize they are submitted in the spirit of moving the state ahead to achieve broader renewable energy options and allow for investment to occur in all parts of our state.

Sincerely,



Secretary Rod Nilsestuen
Wisconsin Department of Agriculture, Trade and Consumer Protection

Resources Consulted:

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