

Advancing Renewable Tariffs

The Wisconsin Experience

Michael Vickerman
American Solar Energy Society
San Diego, CA
May 7, 2008

About Focus on Energy

- Ratepayer-funded program - \$69 million/year
- Three principal program areas
 - Residential
 - Business
 - Renewable
 - ❖ \$7–8 million/year



About Focus on Energy's Renewable Energy Program

- Supports customer-sited renewable energy systems via:
 - Grants and incentives
 - Reducing barriers to market entry (buyback rates)
 - Education and outreach (MREA Fair)
- Target markets
 - Solar photovoltaics
 - Solar hot water
 - Small wind
 - Biomass (wood)
 - Biogas (dairy, WWTP)



Focus on Energy - Solar Successes

- **Strong infrastructure**
 - 26 full-service PV installers
 - 55 full-service SHW installers
 - 70 solar workshops scheduled in 2008
 - Annual PV conference in MKE (Solar Decade)
 - First statewide SHW conference held 12/07
- **PV Incentives – 25%/35% - maximum amount - \$35K/50K**
- **SHW Incentives – 25%/35% - maximum amount - \$50K**
- **Six years - 330 PV systems installed – 1 MW capacity**

Annual Installed Summary							
	2002	2003	2004	2005	2006	2007	To be installed
Number	15	36	38	37	78	100	84
KW	24	62	85	66	264	467	541
Ave size (kW)	1.62	1.73	2.24	1.79	3.38	4.7	6.44
Prof installed							
Cost/kW	\$11,037	\$10,043	\$9,384	\$11,086	\$9,043	\$ 8,524	\$ 9,095

Compound Annual Growth Rate (kW installed): 81%

Analysis of April 1, 2008

Status of Renewable Energy Drivers in Wisconsin

Grants and incentives	In place
Renewable energy standard	In place
Net energy billing (>20kW)	In place
Voluntary RE purchase options	In place
Advanced renewable tariffs	Available in specific service territories

Advanced Renewable Tariffs

Advanced Renewable Tariffs (a/k/a feed-in tariffs) are buyback rates that are:

- Production cost-based
- Fixed over a defined period of time
- Uniformly applied across utility boundaries
- A source of REC's for utilities
- Can feed utility green power purchase options

Many Benefits from Advanced Renewable Tariffs

- Enhances financeability of distributed RE
- Locks in RE resource hedging value
- Expands a utility's native RE base, reducing risks
- Could eliminate need for grants and incentives
- No major transmission upgrades required

Key Players in Wisconsin on ART's

❖ RENEW Wisconsin

- Identified utility buyback rates as No. 1 barrier to DG deployment

❖ WI Distributed Resources Collaborative (WIDRC)

- Formed utility tariff team – discussed various approaches to raising tariffs

❖ Focus on Energy

- Performed analysis on RE production costs

❖ We Energies Renewable Energy Collaborative (WEREC)

- Influenced WE to propose special solar tariff

Initial Activity (2005-2006)

RENEW intervenes in utility rate cases

- Seeking higher buyback rates for wind, biogas
- PSC suggests pegging buyback rates to MISO prices – issue is then addressed by WIDRC.

WIDRC and Focus on Energy model RE production costs – bring Paul Gipe to Wisconsin to discuss ART's

WE proposes higher PV and biogas buyback rates for 2006

- Proposes 22.5 cents/kWh for solar – up to 500 kW
- Tariff to be absorbed through voluntary RE program – no ratepayer impacts
- RENEW supports solar tariff/PSC approves solar tariff

Estimated Break-Even Production Costs of Distributed RE Sources

<i>Distributed Generator Type</i>	100% Financed	Not Financed
30 kW Solar Electric System	\$0.518	\$0.396
90 kW Wind Turbine	\$0.200	\$0.151
225 kW Biogas Digester (dairy manure)	\$0.116	\$0.0953

Source: WIDRC (March 2007)

Costs expressed in 2006 \$\$

Recent Activity (2007-2008)

Through WIDRC, utilities and other organizations are working together on special RE tariffs

Biogas	-	Alliant-WPL	9 cents/kWh	proposed
		We Energies	8.1	approved
		Xcel	7.3	approved
Wind	-	Alliant-WPL	9	proposed
		Xcel	6.6	approved
Solar		MGE	25	approved
		Alliant-WPL	25	pending
		We Energies	22.5	approved

Are These Truly Advanced Renewable Tariffs (ART's)?

In a word, no.

- ✓ Technology-specific
- ✓ Fixed over time
- Not based on production costs
- Solar buyback rates are subsidized by renewable energy subscriptions
- Solar offerings are capped at pre-determined levels
- Rates are designed to be layered on top of other incentives (Focus on Energy, federal tax credits, USDA grants)
- Buyback rates vary from utility to utility

Effect of Solar Rates + Incentives on PV Market

- Current sweet spot in WI is between 20kW and 35 kW (50 kW for nonprofits)
- WE also offers special buydown for nonprofit-owned systems (35% on top of 35% from Focus on Energy)
- When layered on Focus on Energy incentives and federal tax credit, special tariff boosts ROI on commercial systems to about 10%
- WE's tariff now capped at 1 MW – MGE's cap is 150 kW – Alliant proposing 250 kW cap

Pressure Is Building for a State Policy on ART's

- Biogas producers and RENEW intervened in We Energies rate case calling for ART's. WE responded with a higher biogas tariff.
- Alliant has proposed ART's in current rate case.
- Governor's GW Task Force will decide this spring whether to endorse workgroup recommendation to implement ART's statewide.

Where We Are Today

- ❖ The skirmishing stage is over. ART's are ready move to center stage.
- ❖ Executive branch has yet to take a stand on ART's.
- ❖ Outreach effort to date has been limited to utilities and PSC. Legislature has not been approached yet.
 - What's missing is foundation support or industry \$\$ to wage a serious statewide campaign. Same is true with Minnesota and Michigan.

Michael Vickerman

Focus on Energy Renewable Energy Program
608.255.4044
mvickerman@renewwisconsin.org