

Policy: The Key to Building a Thriving Renewable Energy Marketplace

Michael Vickerman
Renewable Energy Summit
Milwaukee, WI
March 13, 2008

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 thermal
 - Small wind
 - Biomass
 - Biogas



About RENEW Wisconsin



Advocates for state-level sustainable energy policies since 1991

One of the architects of the state's Renewable Energy Standard and ratepayer-funded public benefits program

A Focus on Energy subcontractor promoting commercial solar thermal systems and reducing barriers to customer-sited renewable energy

An organized voice for renewable energy producers and purchasers!



Renewable Energy Policy Drivers

Existing and Proposed

- ✓ Grants and incentives (state and federal)
- ✓ Tax credits (federal)
- ✓ Renewable energy standards (state)
- ✓ Net energy billing (state)
 - Advanced renewable tariffs (state)
 - Wind energy permitting reform (state)

Grants, Incentives + Buy-Downs (e.g., Focus on Energy)

➤ Pluses –

- Up-front payment - the grant comes before the installation
- Less out-of-pocket expense to system owner

➤ Minuses –

- Program budgets are usually capped by law
- RE share is small (\$7 million/18 months)
- Awards can reduce the size of a tax credit

Renewable Energy Tax Credits

➤ Pluses

- Relatively popular with elected officials – support is generally bipartisan

➤ Minuses

- No tax liability, no benefit
- Tends to favor larger players with tax appetites
- They are unequally distributed across resources
- Short extension cycles create investment uncertainties

Renewable Energy Standards

➤ Pluses

- Lowest-cost acquisition mechanism
- Impacts are on bulk power scale
- Can create a regional RE marketplace

➤ Minuses

- Will not stimulate higher-cost, distributed energy resources
- As more states adopt RES's, competition for bulk windpower intensifies

A Comparison of State RE Standards

- Minnesota 25% by 2025 (Xcel 30% by 2020)
- Illinois 25% by 2025 (Ameren + ComEd)
- Colorado 20% by 2020
- New Mexico 20% by 2020
- New York 25% by 2013 (now at 19%)
- **Wisconsin 10% by 2015 (now at ~4%)**
- Delaware 10% by 2019
- Maryland 7.5% by 2019

Net Energy Billing

➤ Pluses

- Highly appealing to customers
- Easy to administer
- No limit on number of customers (as a general rule)

➤ Minuses

- Retail rates are still low – resulting in low ROI
- 20 kW limit not likely to be increased through policy changes
- Not popular with utilities

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

Advanced Renewable Tariffs

➤ Pluses

- Enhances financeability of RE DG
- Locks in hedging value of DG resource
- Expands a utility's native RE base, reducing risks
- Could eliminate need for grants and incentives

➤ Minuses

- PSC has not dealt with this issue outside of individual utility rate cases.

Advanced Renewable Tariffs Are What Make Germany No. 1 in the RE World

February 5, 2007

Feed Law Powers Germany to New Renewable Energy Record

by Paul Gipe, Contributing Writer

German farmers, homeowners and industrialists set a world record for the development of renewable energy in 2006. Using the country's pioneering electricity feed law, Germans invested more than U.S.\$10 billion in new sources of renewable energy last year, including wind turbines, solar panels and biogas power plants. <snip>

German Solar Photovoltaics

“Germans invested nearly US\$5 billion in new solar photovoltaic systems and in doing so employed nearly 35,000 in the burgeoning solar industry. Germany now operates more solar-electric generating capacity (2,500 MW) than the installed wind-generating capacity of Britain, Italy, France, or the Netherlands.

“Analysts estimate that solar cells in Germany now generate about 2 TWh of electricity per year, or nearly one-half of one percent of German electricity consumption.”

<http://www.renewableenergyaccess.com/rea/news/story?id=47322>

German Solar Hot Water

“The German solar boom is not solely limited to solar photovoltaics, the perennial favorite of environmentalists, but also to the more pedestrian solar domestic hot water systems. In 2006, Germans installed 140,000 solar hot water systems or 1,050 MW of solar thermal capacity. Altogether, there are the equivalent of 6,300 MW of solar hot water heating in Germany today. Often overlooked in preference for the sexier solar photovoltaics, solar thermal systems generate the equivalent of 4.3 TWh per year. The German solar hot water market employs 18,000 and earns gross revenues of U.S.\$1.5 billion per year.”

<http://www.renewableenergyaccess.com/rea/news/story?id=47322>

German Biogas

Germany employs 8,000 in the on-farm biogas industry. Manure-fired power plants generate nearly 5 TWh per year of electricity, or about one percent of consumption, says the ... German Renewable Energy Association.

<http://www.renewableenergyaccess.com/rea/news/story?id=47322>

German Wind

Again in 2006, Germany remained one of the world's largest markets for wind turbines, installing nearly 2,200 MW from Bavaria to the Danish border. Germany not only was the world's second largest market for wind energy, behind only the U.S., but also continued to lead the world with a total installed wind-generating capacity of 20,600 MW, according to the World Wind Energy Association.

<http://www.renewableenergyaccess.com/rea/news/story?id=47322>

What's Happening in Wisconsin?

Utilities adopting 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)
- Buyback rates vary from utility to utility

The View from Customer-Generators

Problem: Utilities are offering ART's Lite in a piecemeal and scattershot fashion.

Solution: PSC should open a generic proceeding to set renewable energy tariffs that are uniform across utility boundaries and are fixed at their production costs for a specified period of time.

Pressure Is Building

- Biogas producers and RENEW intervened in We Energies rate case calling for ART's.
- Alliant has proposed ART's in current rate case.
- Governor's GW Task Force will decide this spring whether to endorse workgroup recommendation to promote ART's.
- Individual utility tariff proposals create a more disparate landscape for customer-generators

Permitting Wind Projects in Wisconsin

The Final Frontier

WI Wind Projects - Class of 2008

<u>Developer</u>	<u>(MW)</u>	<u>County</u>	<u>PPAs with</u>
We Energies	145	FDL	N/A
Invenergy	129	FDL/Dodge	WPL, WPPI, MGE, WPS
Alliant/WPL	68	FDL	N/A
Eurus/RES	54	Dodge	WPPI

Estimated output from these projects (396 MW → 1 billion kWh/year → 1.4 percent of WI electricity sales)

Top two projects received CPCN approval from the PSC.

The Siting Picture for Wind

> 100 MW Wind projects are reviewed by Public Service Commission, preempting local government ordinances. It is an expensive, time-consuming, lawyer-intensive process, but there is a clearly defined path to permit.

< 100 MW Local government review projects. When opposition surfaces, local governments buckle. Moratoria and restrictive ordinances are adopted to prevent projects from being built.

When Facing Local Opposition, What Can a Developer Do?

- 1) Get Big – Expand project to >100 MW and obtain a CPCN from the PSC
 - Rely on agency's pre-emptive authority
 - Expensive and time-consuming
 - Reasonable probability of success
 - Only a handful of locations can accommodate 60 turbines

- 2) Go Somewhere Else

What AB 899/SB 544 Would Do

- 1) Require PSC to establish, by rule, uniform siting standards (similar to the state's livestock operation siting law), covering:
 - ✓ Setbacks
 - ✓ Sound levels
 - ✓ Studies and testing requirements
 - ✓ Bonding requirements

- 2) Create process for appealing local decisions to PSC (also similar to the livestock facility siting law)

Michael Vickerman

Focus on Energy Renewable Energy Program

608.255.4044

mvickerman@renewwisconsin.org

Material in this presentation does not imply a recommendation or endorsement of any product or service, by the Focus on Energy Program or any subcontractor of Focus on Energy. The Focus on Energy Program, or any subcontractor of Focus on Energy, is not responsible for inaccurate or incomplete data in this presentation.