



Michigan Wind Conference 2009
Feed-in Tariffs, Net Metering
& Interconnection

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Michigan Public Service Commission
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- Michigan Public Service Commission
 - Three Governor-appointed Commissioners
 - Regulates 18 investor-owned and cooperative (member owned) utilities
 - Licenses alternative electric suppliers
 - Regulatory responsibilities for the new Renewable Energy Standard (RES) & net metering program
 - Some new responsibility for ensuring public review and compliance of municipal utility Renewable Energy Plans

Wind & the MPSC

- Renewable Energy Standard (RES/RPS)
- Utility Green Pricing Programs
- Net Metering
- Utility Interconnection Rules
- Wind Energy Resource Zone Board
- Electric Transmission Line Certification Act
- Wind Transmission Planning Studies
- Michigan Renewable Energy Program



Feed-in Tariffs

Feed-in Tariffs

What are they?

- AKA Advanced Renewable Tariffs (ARTs), Standard Offer Contracts (SOCs)
- Generators are paid a per kWh price that allows them a reasonable return on investment – production based
- Generator usually receives a contract for 10, 15, or 20 years
- Utility keeps the customer
- Customer doesn't need to negotiate a power purchase agreement
- Generator can be sized larger than a customer's electric needs (unlike net metering)

Gainesville Feed-in Tariff

- GRU (Gainesville, Florida municipal utility) announced a new Solar Feed-in Tariff
 - Expected to begin on March 1
 - \$0.32/kWh 20 year fixed rate initially offered declines after 2010 annually
 - GRU Buys All PV Output at Fixed Price for 20 Years
 - Must be in GRU Service Territory
 - GRU Retains REC and Carbon Rights
 - Completion Requirement to Avoid Capacity Hoarding

Feed-in Tariffs

How to implement for Michigan?

- MPSC Staff is working with Michigan electric suppliers to try to get experimental or pilot program ARTs included within Renewable Energy Plans
- Source of funding – RES Surcharge – is limited, so program would have to be limited
- Current thinking: Feed-in Tariffs for small-scale, on-site solar, wind, etc.

Michigan Summary

Wisconsin Electric Power Company

- Experimental Renewable Energy (Solar PV)
Distributed Generation (Rate Cgs PV)
 - Eligible PV generating equipment 1.5 kW to 15 kW
 - Limited to 75 kW
 - Available for enrollment through September 2011
 - 10 year contract
 - Participation in green pricing program required
 - Rate is \$0.225/kWh
 - RECs go to utility
 - Available to customers starting in January 2009

Michigan Summary

Consumers Energy Proposal

- Experimental Advanced Renewable program included in proposed renewable energy plan filed on February 17, 2009
- Limited to a total of 2 MW of solar PV, 500 kW reserved for residential customers
- Residential generators must be at least 1 kW; Commercial generators must be at least 20 kW and less than 150 kW
- Deliveries must begin before 12/31/10
- Prices range from \$0.65/kWh and \$0.375/kWh
- RECs belong to the utility
- \$25 per month system access charge
- Contract term is up to 12 years

Michigan Legislation

HOUSE BILL No. 4137

HOUSE BILL No. 4137

February 4, 2009, Introduced by Rep. Gonzales and referred to the Committee on Energy and Technology.

A bill to require certain providers of electric service to purchase electricity from eligible electric generators; to prescribe the powers and duties of certain state agencies and officials; and to provide for penalties.

THE PEOPLE OF THE STATE OF MICHIGAN ENACT:

1 Sec. 1. This act shall be known and may be cited as the
2 "renewable energy sources act".

3 Sec. 3. As used in this act:

4 (a) "Average specific yield" means the average production in
5 kilowatt hours for the first 5 years of production of a wind-
6 powered plant, less the maximum and minimum years of production,
7 divided by the rotor-swept area in square meters.

8 (b) "Capacity" means the electrical capacity that an eligible
9 electric generator may produce during regular operations, not

- HB 4137 Introduced on February 4, 2009 by Representative Lee Gonzales
- Eligible generators include wind
- 20 year contracts
- Small wind payment is no less than \$0.25 per kWh
- Other wind payments between \$0.105 and \$0.08 per kWh

HOUSE BILL No. 4137

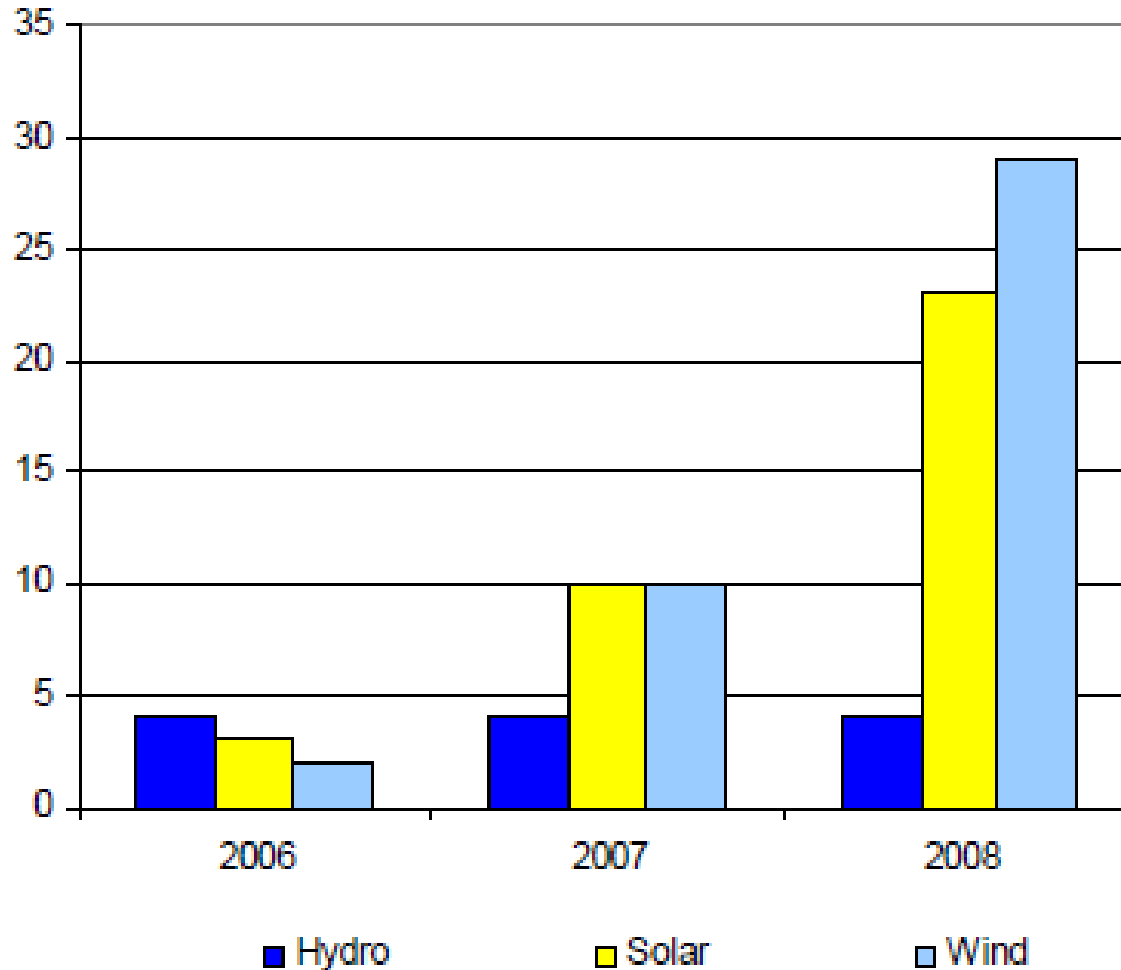


Net Metering

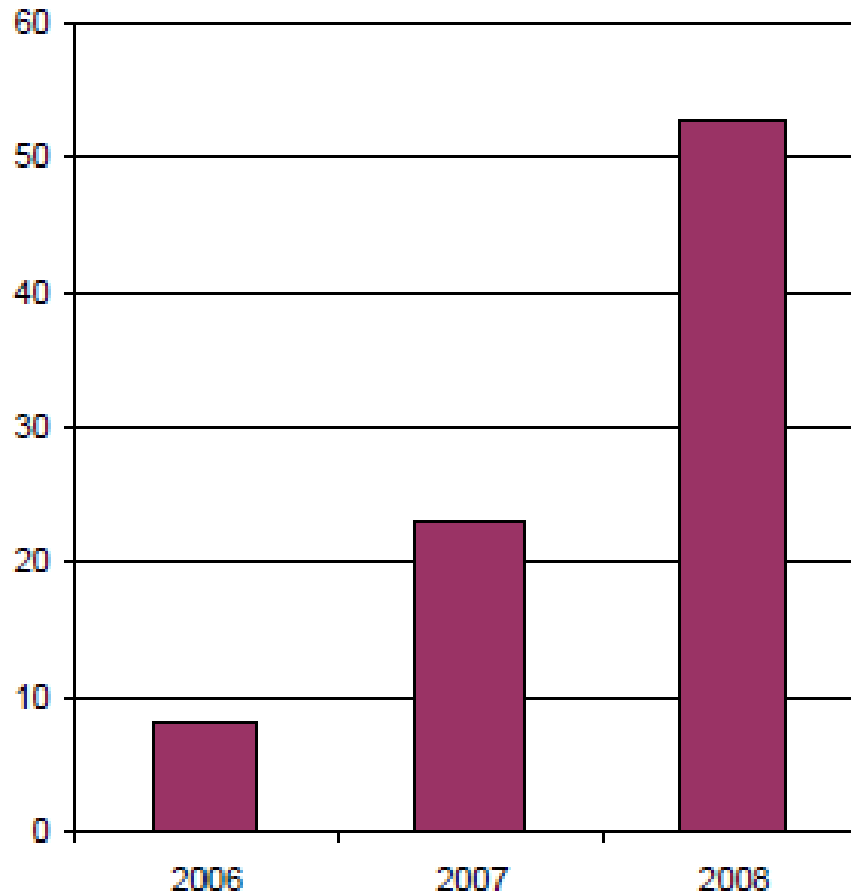
Net Metering

- Currently...
 - For customers of rate regulated utilities with generators under 30 kW
 - All programs are still open and have room for more participation
- Coming soon...
 - New net metering program under 2008 PA 295
 - Proposed rules are available for public comment. See www.michigan.gov/netmetering

Net Metering Installations by Technology Type



Number of Net Metering Customers (through year ending June 30, 2008)



New Net Metering Program

Proposed Rules - 2008 PA 295

- Three tiered program for rate regulated utilities and alternative electric suppliers totaling 1% of a provider's previous year peak in MW
 - 0.5% for ≤ 20 kW
 - 0.25% for >20 kW up to 150 kW
 - 0.25% for >150 kW up to 550 kW (methane digesters only)
- Generator must be sized no larger than the customer's electricity needs
- RECs are owned by the generator
- Customers keep net metering credits and receive a check annually when credit is above \$50
- Ask your utility to provide a sample bill to help you understand the economics of net metering

True Net Metering

For Generators up to 20 kW

- Customer is billed based on net usage and receives the full retail rate for all excess kWh
- Utility shall use the customer's existing meter if it is capable of reverse registration
- A generator meter shall be provided at cost if requested by the customer
- No interconnection costs or study fees

Modified Net Metering For Generators Greater than 20 kW up to 550 kW

- Customers pay all interconnection costs/study fees
- Customers with generators up to 150 kW can use their generation on site without paying a standby charge
- Customers with generators ≥ 150 kW (methane digesters only) pay standby charges
- Customers pay full retail rate for deliveries from the utility and receive the generation portion of the retail rate for deliveries to the grid
- Net excess generation is credited at either the generation portion of the retail rate or an Locational Marginal Price (LMP) wholesale rate



Interconnection

Interconnection Summary

Completed Projects

Distribution Level Interconnections

Regulated Utilities Only

Types of Energy	Number of Projects	20 kW and under	>20 KW to 150 kW	>150 kW to 550 kW	>550 kW to 2 MW	>2 MW
Wind	46	46	0	0	0	0
Solar	41	41	0	0	0	0
Other	12	0	4	0	2	6
Total	99	87	4	0	2	6

Includes projects from approximately 2005 through September 2008.

Interconnection Rule Revision Project

- Revised interconnection standards will work in tandem with interconnection procedures (also called requirements) filed by each utility (just like the current rules)
 - Utilities are encouraged to file joint procedures (there are 3 different sets statewide currently)
 - Procedures include technical details
 - Procedures must be filed for Commission approval 90 days after the interconnection standards become effective

New Provisions in the Proposed Rules

- An electric utility, AES, or applicant may apply for a waiver from 1 or more provisions of the rules
- Pre-Application meeting provision
- Appointment of experts to assist MPSC if necessary when a complaint is filed
- Alternative dispute resolution
- Designated point of contact for both utility (initial and technical issues and application status) and applicant (must be able to answer technical questions)
- Statewide, uniform applications and agreements
- Electric utility shall not require additional liability insurance for Category 1 & 2 projects

Proposed Category Sizes

- Category 1: Inverter based project of 20 kW or less using equipment certified to IEEE 1547.1 and tested in compliance with UL 1741 scope 1.1A
- Category 2: Project > 20 kW up to 150 kW
- Category 3: Project > 150 kW up to 550 kW
- Category 4: Project > 550 kW up to 2 MW
- Category 5: Project > 2 MW

Basic Cost for Category 1 Proposed Rules

- Category 1 (up to 20 kW) – Interconnection and Net Metering
 - Application fees: \$75 for interconnection plus up to \$25 for net metering
 - New! Net metering customers are not billed for utility testing/inspection
 - New! Category 1 customers are not charged for studies or distribution upgrades
 - New! Additional meters/meter sockets not required

Proposed Rules

Interconnection Steps

- Pre-application meeting, if requested by applicant
- Utility assess application for completeness: 10 days
- Application Review: 10 days (Category 1 projects jump down to the last item in list)
- Engineering Review (if necessary): 10 – 45 days
- Distribution System Study (if necessary): 10 – 60 days (unless another period is agreed to)
- Distribution Upgrades (if necessary): mutually agreed upon timing
- Local code inspection, commissioning tests, final approval, cost reconciliation & interconnection agreement

Michigan Renewable Energy Program

- PA 141 (2000) required PSC to establish the Michigan Renewable Energy Program (MREP)
- Purpose is renewable energy education and promotion
- MREP website: www.michigan.gov/mrep
 - Join the mrep listserv
- Wind Working Group
http://www.michigan.gov/dleg/0,1607,7-154-25676_25774-75767--,00.html (Website also has information on the State Wind Outreach Team)



Questions?

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