Michigan Net Metering Update

Michigan Public Service Commission

Renewable Energy Section

January 19, 2010

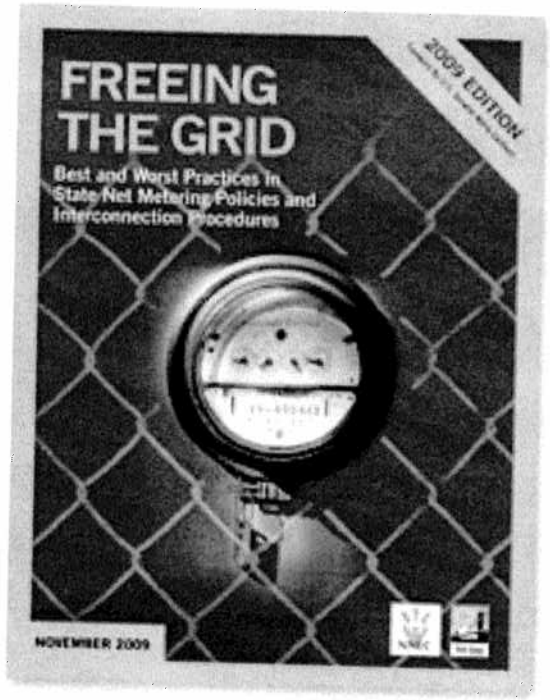
Where we were…Pre-Act 295

- No explicit legislative authority to establish a net metering program
- 2005 program was designed using a voluntary collaborative process
- Very complicated billing – generally not "net" metering for most utilities
- Billing, metering requirements, agreements were not standard across participating utilities
- Low customer participation and satisfaction

With Act 295…Much Improved Program

- Excellent program for small generator projects
- Increased customer interest
- Expands program with a "modified" net metering offering for renewable generators up to 150 kW and methane digesters up to 550 kW
- Standard application and agreement
- See www.michigan.gov/netmetering

Net Metering State "Grade"



- *Freeing the Grid* 2009 Edition awards Michigan a "B" grade for new net metering program
  - Improved from an "F" (in 2007 & '08)
  - Michigan now ranks 15th of 44 states with graded net metering programs
- www.freeingthegrid.com

Status of Electric Interconnection & Net Metering Standards

- New Electric Interconnection & Net Metering Standards implementing Act 295 became effective on May 27, 2009
- Uniform, statewide application forms & contractual agreement forms
- www.michigan.gov/customergeneration

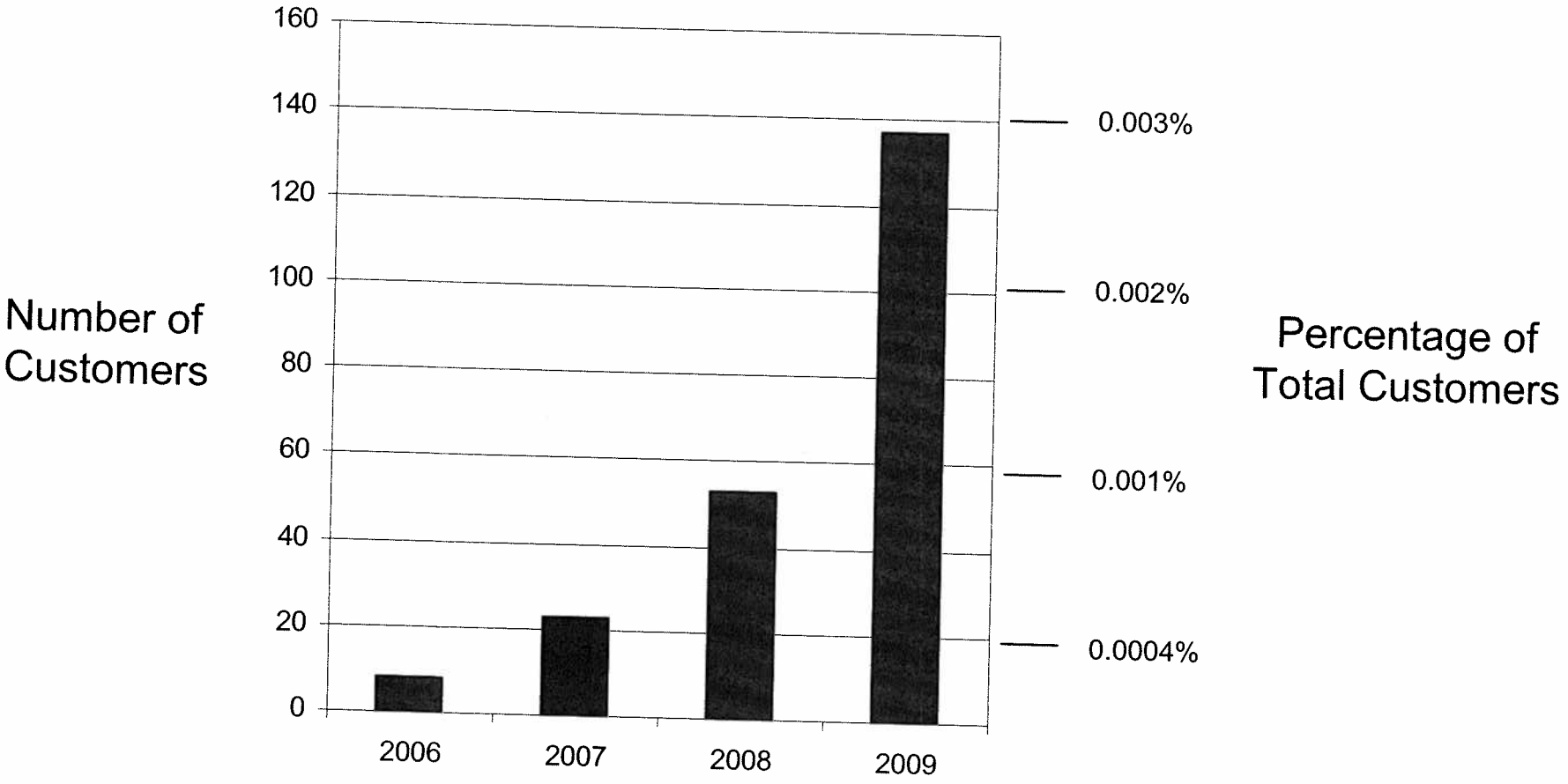
Summary of Michigan Interconnections Projects Completed by Generator Size

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	135	133	1	0	0	1
Solar	78	78	0	0	0	0
Other*	21	0	4	0	5	12
Total	**234**	**211**	**5**	**0**	**5**	**13**

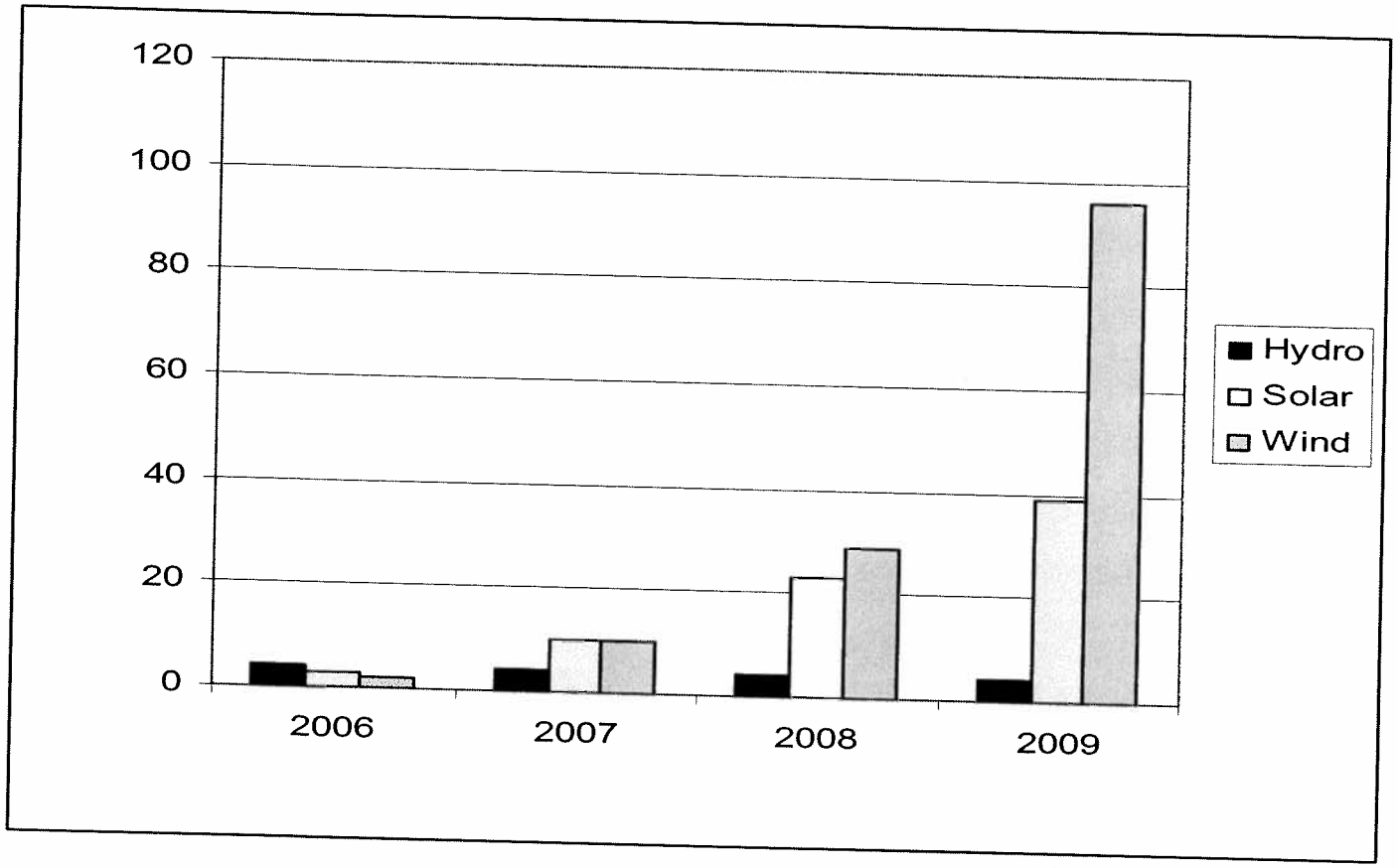
Other category includes: landfill gas, dynamometers, diesel & methane digesters
Data includes projects from approximately 2005 until September 30, 2009.

MPSC-regulated providers only. Does not include municipal utilities or member-regulated cooperatives.

Michigan Net Metering
Cumulative Installations - June 2009

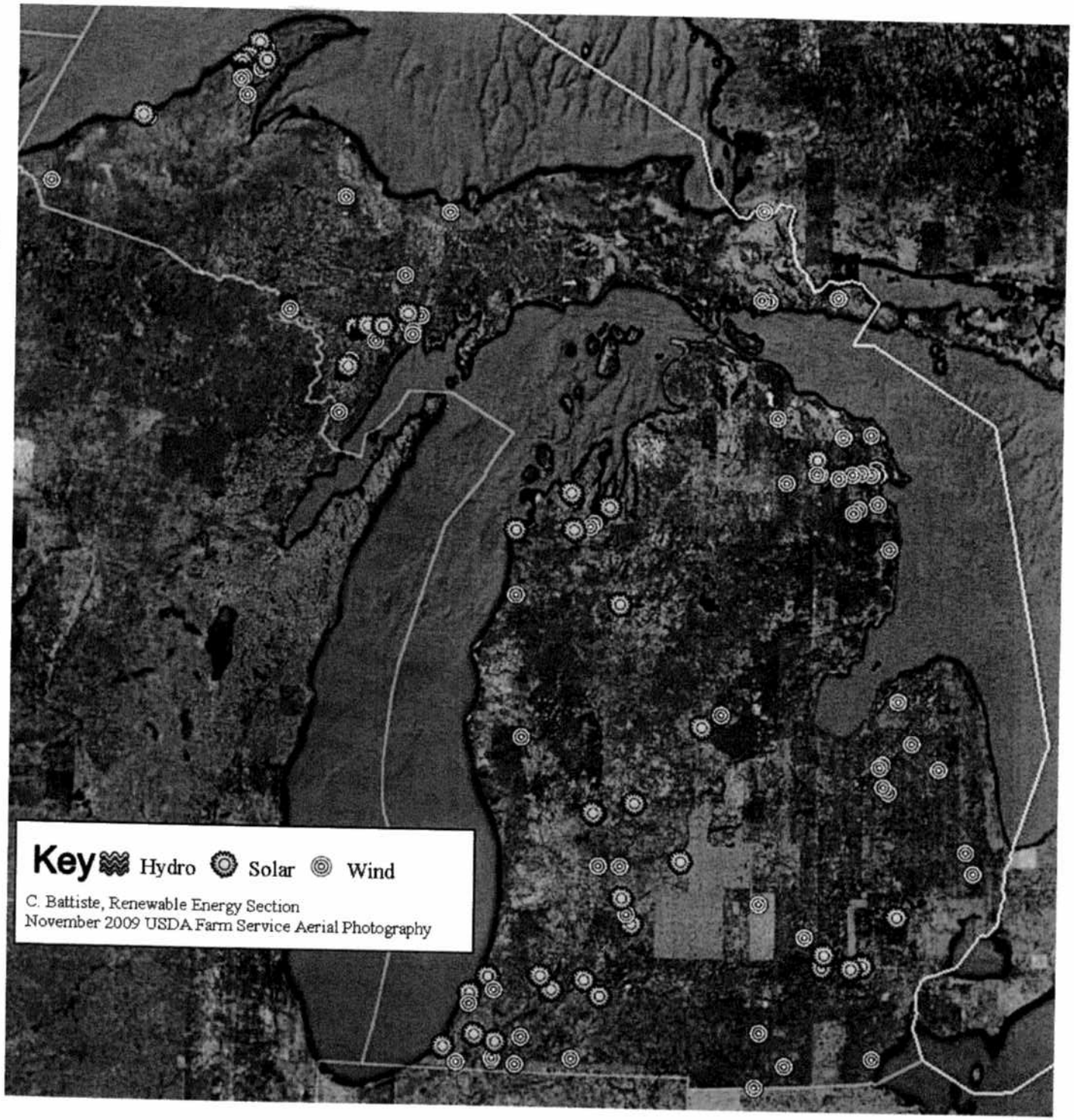


Michigan Net Metering - June 2009 by System Type

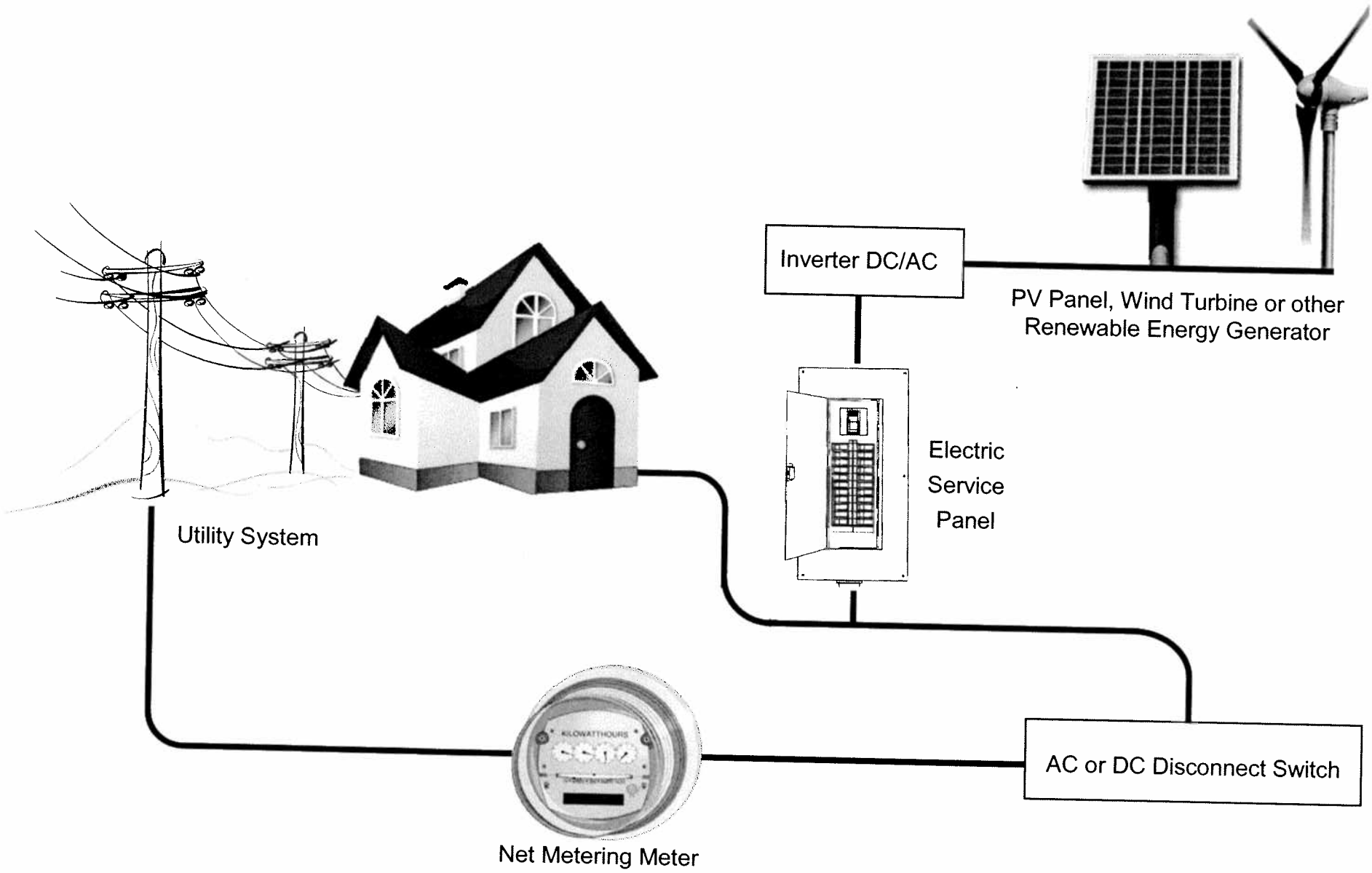


Locations of Michigan Net Metering Customers

(Cumulative installations through June 30, 2009, by Zip Code)



Net Metering for Small Generators



Prepared by M. Pung, MPSC Renewable Energy Section

New PA 295
Net Metering Program
Background & Highlights

Net Metering

- Net metering program size can grow to at least 1% of each provider's peak load
- The 1% is allocated among three net metering categories, based on generator size
  - 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)

Program Size and Status – June 2009

Company	2008 In-State Peak MW	Category 1 PA 295 Minimum Program Size kW	Current Category 1 Actual Participation kW
AEP/ Indiana Michigan	629	3,145	45
Alpena	60	300	54
Cloverland	42	210	11
Consumers Energy	7,488	37,440	50
Detroit Edison	10,744	53,720	73
Edison Sault	145	725	7
Great Lakes	236	1,180	6
Homeworks Tri County	74	370	5
Midwest	120	600	33
Northern States/ Xcel	31	155	4
Ontonagon	6	30	30
Presque Isle	43	215	42
Thumb	30	150	4
Uppco	144	720	50
We Energies	385	1,925	36
WPSC	154	770	2

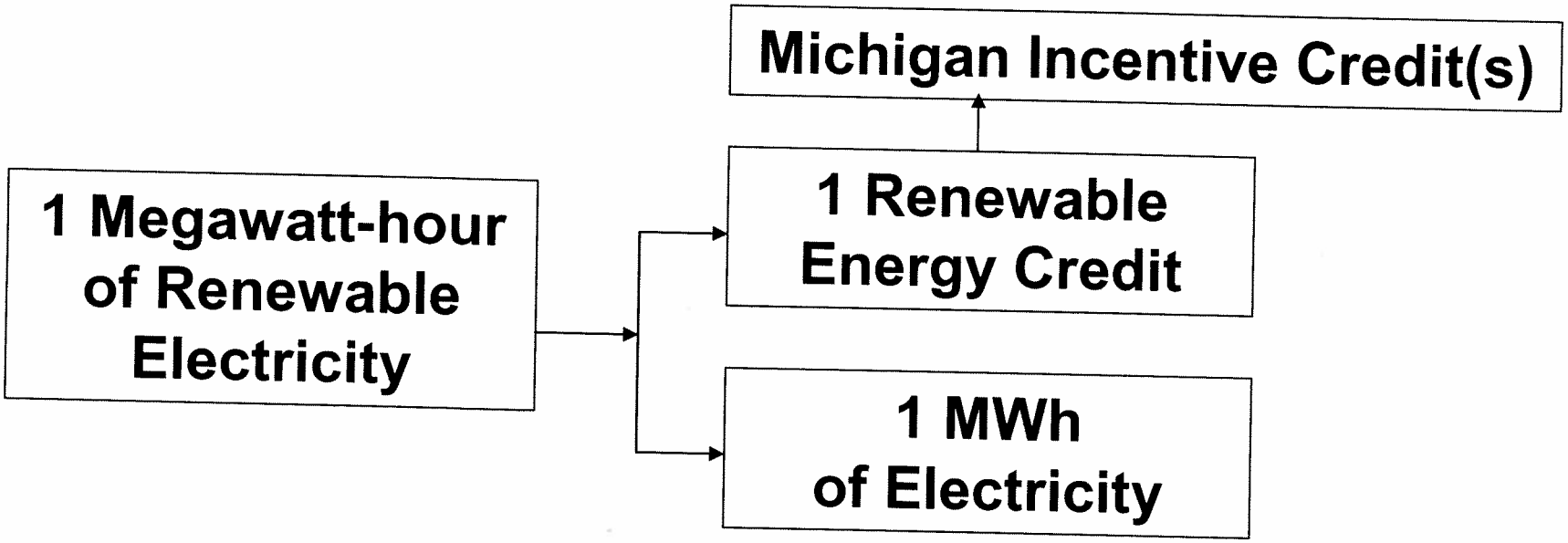
Net Metering Customers Own Their MI Renewable Energy Credits

- Michigan Renewable Portfolio Standard (RPS) compliance is based on Michigan Renewable Energy Credits (MIRECS; www.mirecs.org)
- One REC is created for every megawatt-hour (MWh) of renewable energy generated (1 MWh = 1,000 kWh)
- REC price will be market based. REC price estimates range from 1.5 to 7 cents per kWh

Michigan Incentive RECs are like extra credit

- Solar earns two extra RECs per MWh
- Michigan Manufactured Components
- Installation by Michigan workforce
- On-peak generation (not wind)
- Off-peak energy stored in an advanced storage facility and then used to generate on-peak

MIRECs Explained



Renewable Energy Credit can be sold separately from the electricity.

Net Metering
Small Projects 20 kW and Under

- Generally, residential customer projects
- Customer is billed based on net usage
- Customer receives a credit equal to the full retail rate for all excess kWh
- Credit is applied to kWh charges in future months and unused credits carry forward indefinitely
- Customer will pay monthly customer charge or system access fees
- No studies or testing/inspection fees
- Generally approved in under 14 days

Modified Net Metering Projects from 20 kW to 150 kW

- Typically, agricultural, commercial, industrial, or institutional customer projects
- Customers pay the full retail rate for electricity deliveries from their electric provider and are credited at the generation portion of the retail rate or a wholesale rate for deliveries of excess generation to the grid
- No charge for the engineering review for interconnection
- Customers pay all interconnection costs, distribution study fees and any required distribution system upgrades
- Customers with generators up to 150 kW can use their generation on-site (behind the meter) without paying a standby charge

Modified Net Metering Methane Digester Projects

- Typically, on-farm projects
- For projects >150 kW up to 550 kW
- Nearly the same as the >20 kW to 150 kW program
- Customers pay the costs of any additional meters, plus "standby charges" equal to imputed distribution charges as if they bought all their energy from the utility

Experimental/Pilot Programs for Small-Scale, Distributed Renewable Generation Supporting Michigan Utility PA 295 RPS Plans

Detroit Edison SolarCurrents Pilot Program

- Available to Detroit Edison retail net metering customers
- Limited to 5 MW capacity; solar PV only; At least half reserved for residential customers
- Contract term of 20 years
- Up-front payment of $2.40 per watt (estimated 25% of total system cost, including modest ROI) plus annual payments of 11¢/kWh for RECs (estimated ~25% of total system cost).
- Net metering program allows customer to receive an economic value of remaining 50% cost
- Estimated $25 million program, out of $2.2 billion total
- www.dteenergy.com/solar

Consumers Energy Experimental Solar Program

- Participating customers may not enroll in net metering
- Limited to a total of 2 MW of solar PV, 500 kW reserved for residential customers
- Estimated $10 million program, out of ~$3.1 billion, 20-year spending on renewable energy
- Prices paid range from $0.65/kWh to $0.375/kWh
- RECs belong to the utility
- Contract term is up to 12 years

Current Program Challenges, Prognosis, and Prescriptions for Progress

Prognosis

- Continued annual doubling of installed small scale distributed generation is a reasonable goal
- Solar PV quickly approaching price parity
- Build on Consumers and Edison experimental / pilot programs
- Promise of significant Michigan manufacturing

Current Challenges

- On-again, off-again federal renewable energy policies
- Difficulties obtaining low-cost consumer financing
- Finalizing details for MIRECS aggregation
- Customers of municipal utilities and member-regulated cooperatives are unsure of net metering opportunities

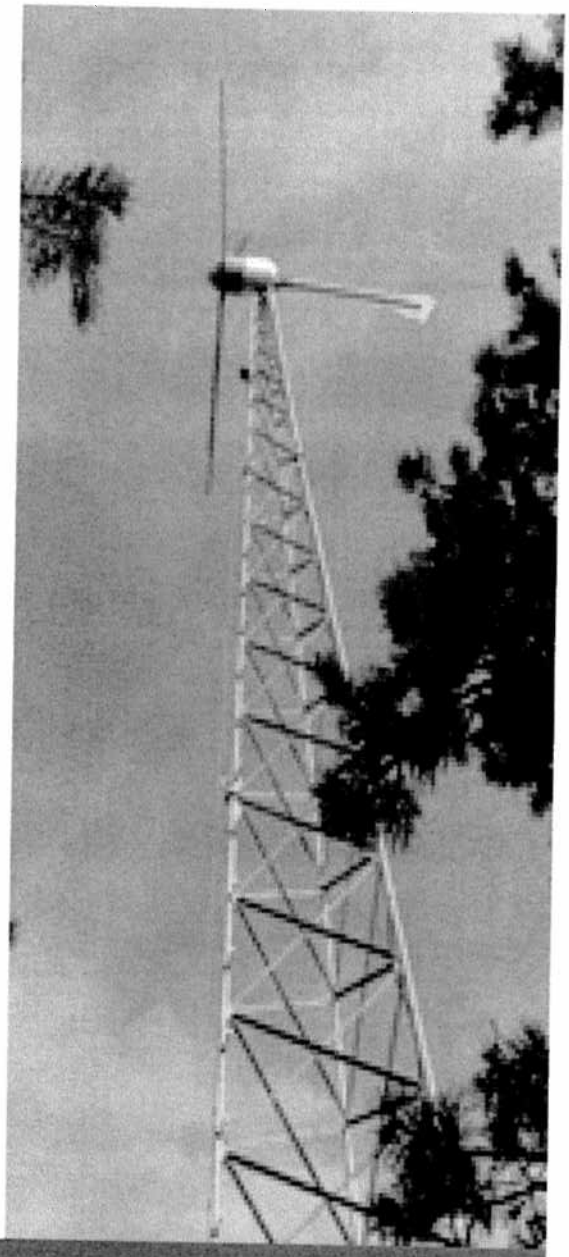
Current Challenges (2)

- Billing is complex for net metering customers on rate schedules with demand charges (e.g., methane digesters)
- On-farm methane digester projects can be too large to participate in net metering: Producing more power and energy than the farm itself can use
- Desire for affiliate wheeling or retail wheeling
- Need to update utility standby tariffs

Considerations for Possible Policy Enhancements

- Analyze pilot programs and consider expansions
- Fix property tax inequity/disincentive
- Design and implement Standard Offer Contracts
- Facilitate community-scale projects, to tap better economies of scale

Questions?



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