

A New Era in Michigan's Energy Future

Consumers Energy

MPSC Wind Working Group
April 19, 2012

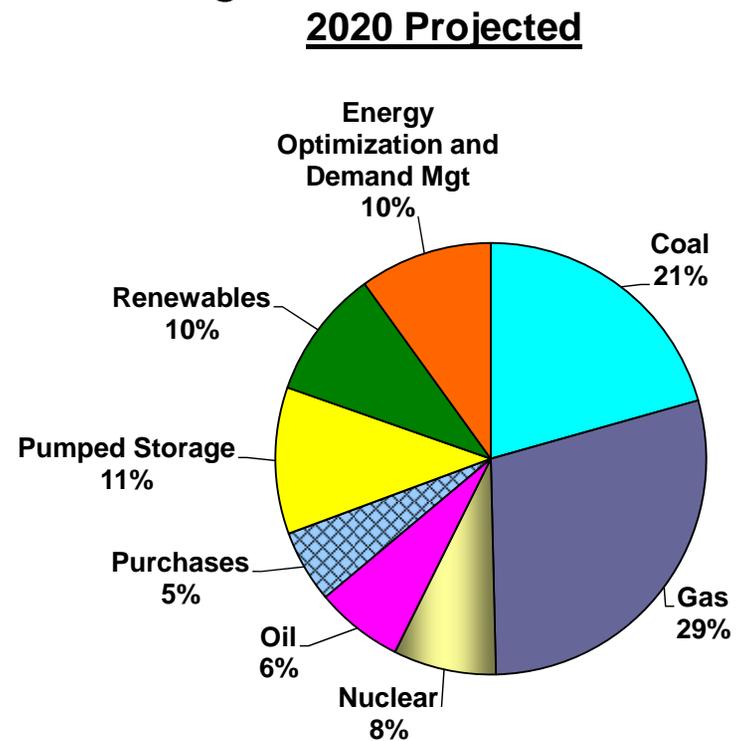
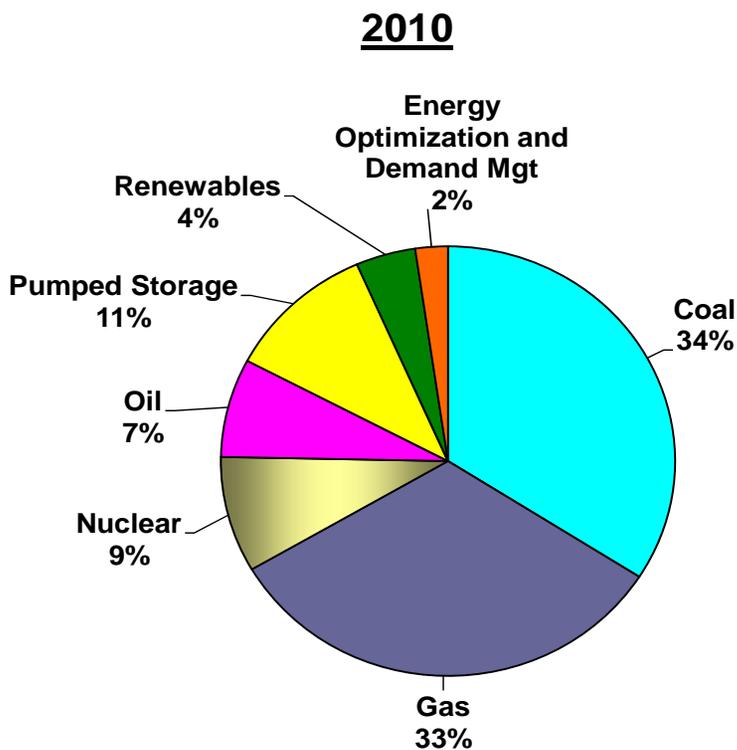


Goals of PA 295 of 2008

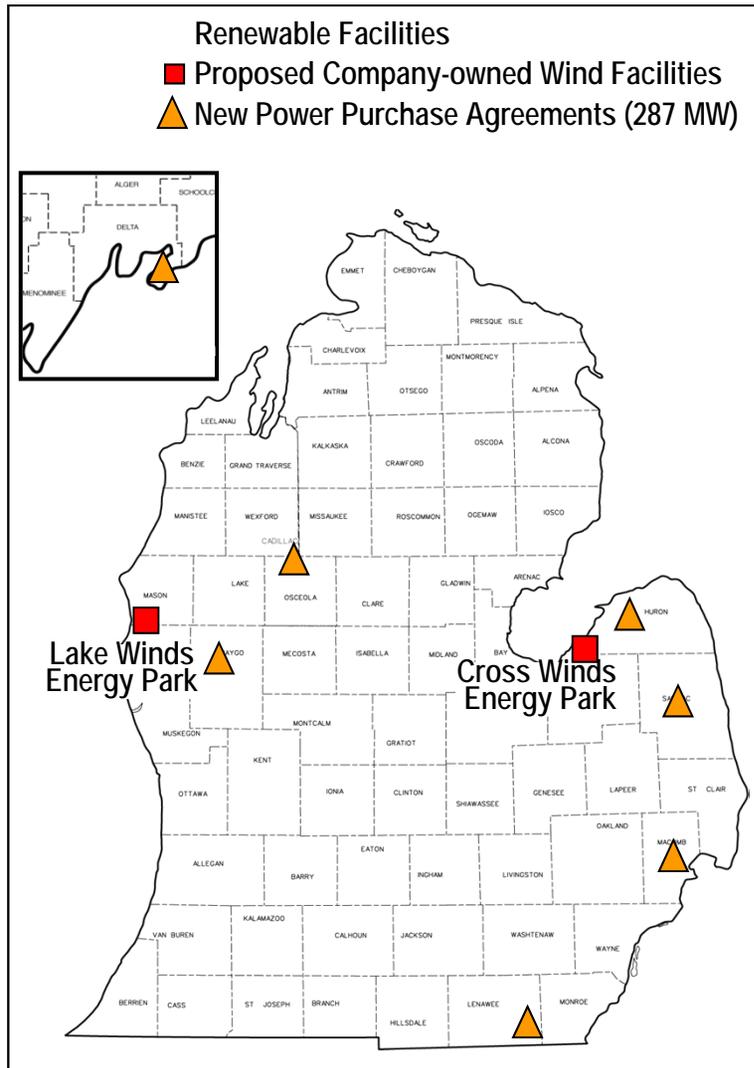


- (a) Diversify the resources used to reliably meet the energy needs of consumers in this state.
- (b) Provide greater energy security through the use of indigenous energy resources available within the state.
- (c) Encourage private investment in renewable energy and energy efficiency.

Consumers Energy's Electric Generating Portfolio



Renewable Energy Plans

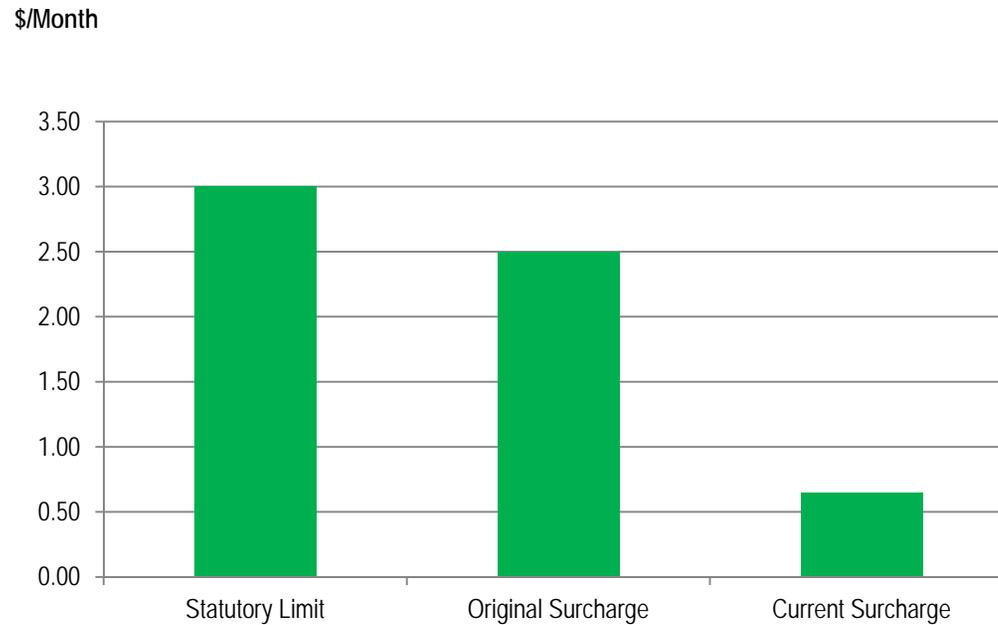


- Michigan energy law requires:
 - 10% renewables by 2015
 - Purchase 50% and build 50%
- Plan to invest \$650 million over next five years, primarily on wind power
- Total Investment over Plan period (2009 – 2029) - \$3.1 billion

Renewable Energy Surcharges



Consumers Energy Company Residential Renewable Energy Surcharge

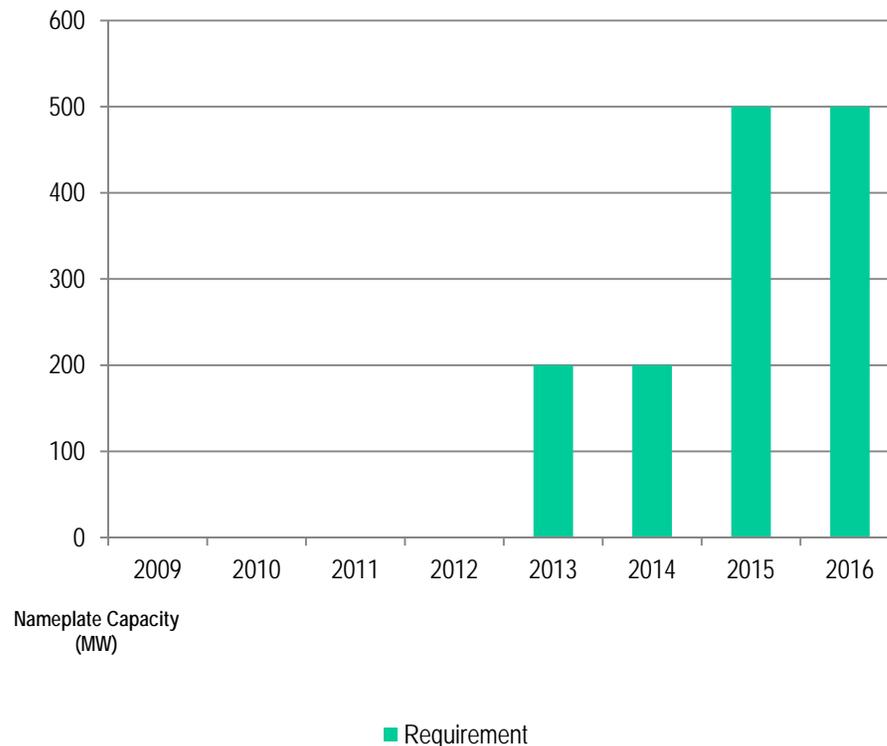


- Renewable energy surcharge reduced about \$54 million annually

Renewable Energy Requirements



Consumers Energy Company New Renewable Capacity

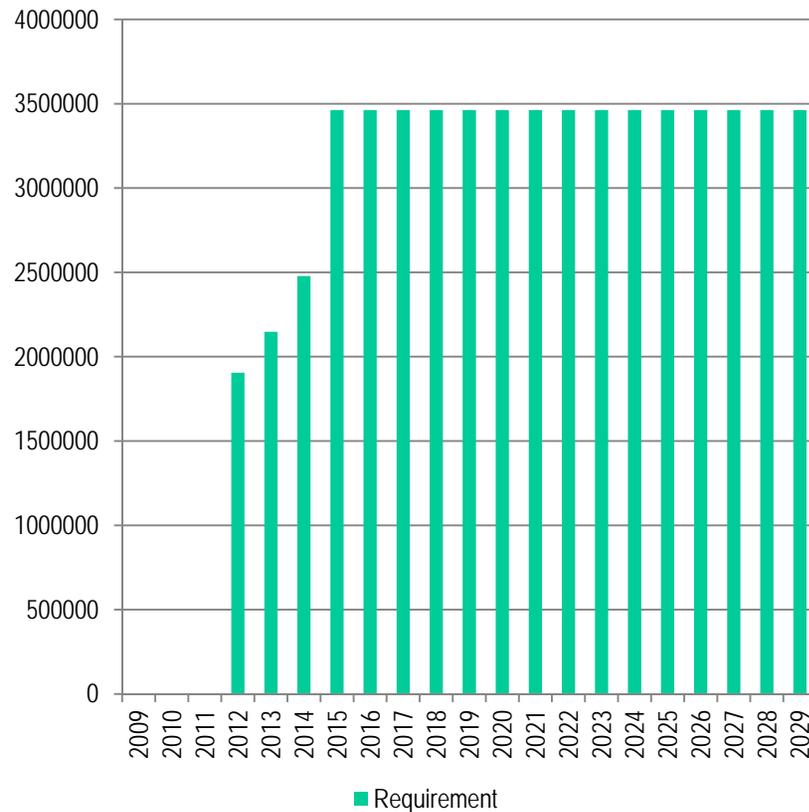


- New Capacity
 - By December 31, 2013
 - 200 MW
 - By December 31, 2015
 - 500 MW
- In addition to 429 MW of existing contracted and owned renewable capacity at 49 facilities.
 - Biomass
 - Hydro
 - Landfill Gas
 - Wind

Renewable Energy Requirement



Consumers Energy Company
Renewable Energy Credits



- Energy (RECS)
 - 2012 – Baseline plus 20%
 - 2013 – Baseline plus 33%
 - 2014 – Baseline plus 50%
 - 2015 – 10% of Sales
- Renewable Energy Credit
 - 1 per MWh generated
- Incentive RECs
 - On Peak – 0.2/MWh
 - Storage – 0.2/MWh
 - Michigan Material – 0.1/MWh
 - Michigan Labor – 0.1/MWh
 - Solar – 2.0/MWh
- Substitutions
 - Advanced Cleaner Energy Credits
 - Energy Optimization Credits

CE Wind Generating Resources



- Mackinaw Wind Turbines – In Service
- Michigan Wind I – In Service
- Michigan Wind II – In Service
- Harvest Wind II – 2012
- Blissfield Energy Park – 2012
- Stoney Corners – In Service
- Garden – 2012
- Lake Winds Energy Park – 2012
- Cross Winds Energy Park Phase I – 2015
- Cross Winds Energy Park Phase II – 2022

New Purchased Resources

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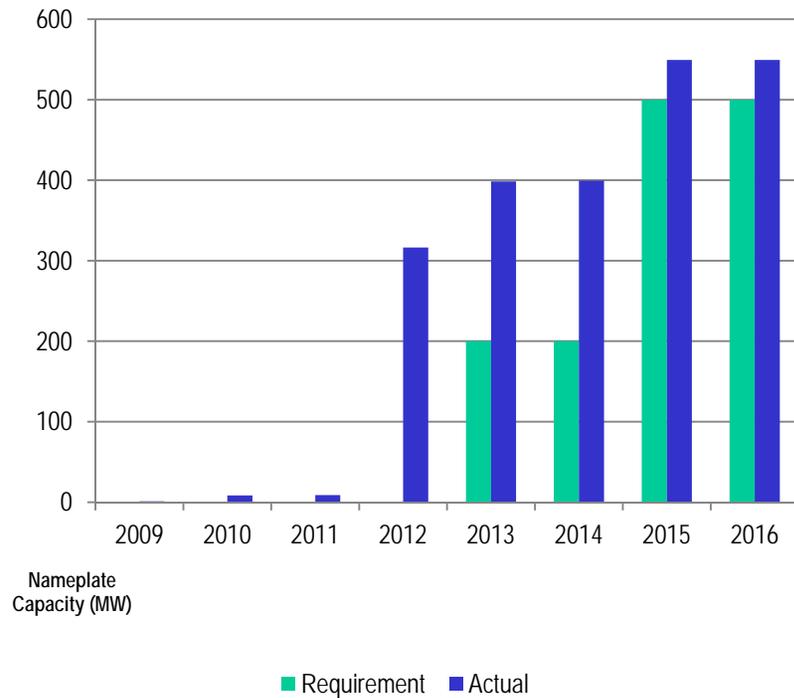


- Competitively Bid Projects
 - Up to 20 Year Contracts
- Mix of Resources
 - Wind – 5 Projects – 271 MW
 - Landfill Gas – 4 Projects – 15 MW
 - Anaerobic Digestion – 3 Projects – 4 MW
 - Hydro – 1 Project – 1 MW
- Experimental Advanced Renewable Pilot Program-multiple phases – 5 MW

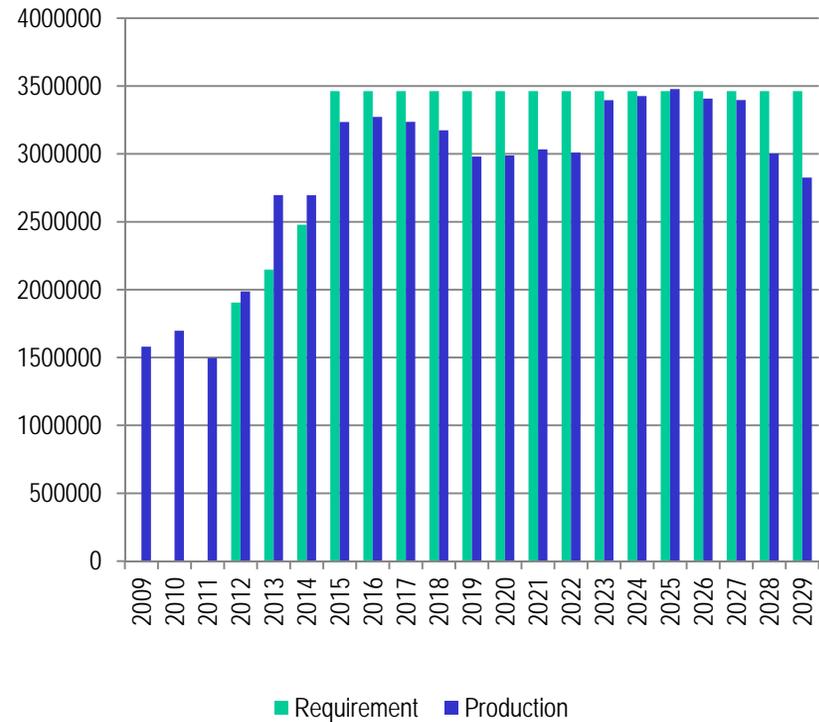
Renewable Energy Plan



Consumers Energy Company New Renewable Capacity



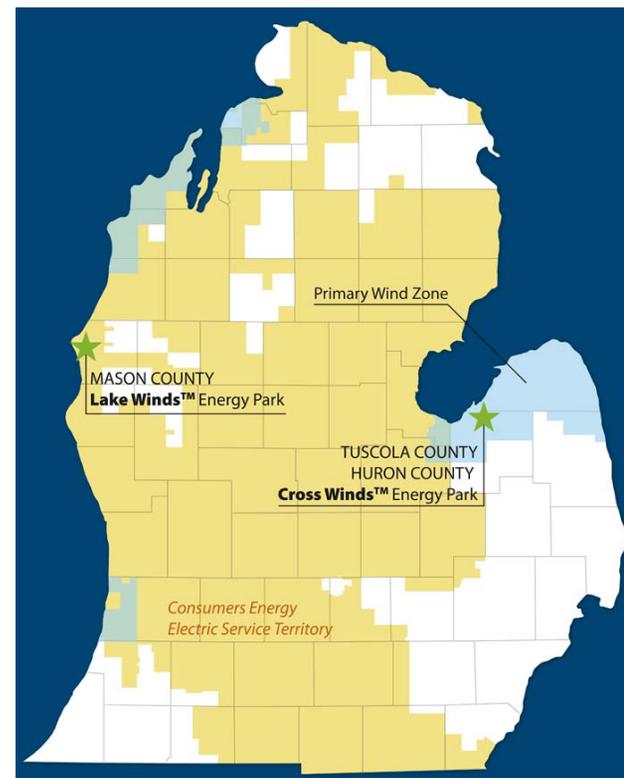
Consumers Energy Company Renewable Energy Credits



Wind Farm Sites: Location and Schedule



- What determined location?
 - Adequate wind: 15 mph or greater average speed
 - Close to current or future transmission
 - Minimal environmental impacts
 - Favorable zoning
 - Supportive Communities



Legend

- Primary wind zone (as determined by Wind Energy Resource Zone Board)
- Consumers Energy Electric Service Territory

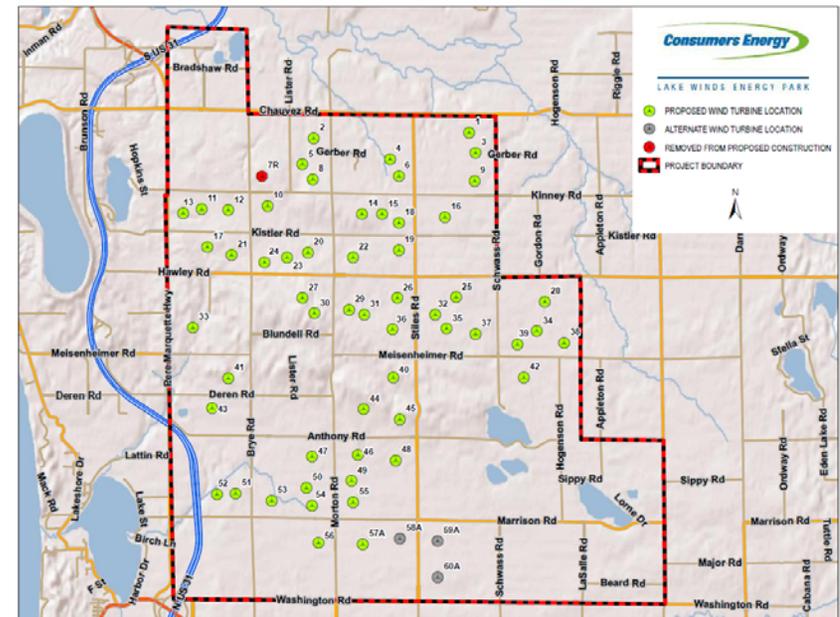
Wind Farm Development	2012	2013	2014	2015	2020	2021	2022
	Lake Winds Operational		Cross Winds Phase 1 Construction Begins	150 MW Cross Winds Phase 1 Operational	Cross Winds Phase 2 Turbine Contract	Cross Winds Phase 2 Construction Begins	100 MW Cross Winds Phase 2 Operational

Mason County Lake Winds™ Energy Park

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- 100.8 MW Wind farm-56 wind turbines-1.8 MW per turbine
- 16,000 acres under easement
- Investment-\$235 million
- Under Construction
- Turbine Deliveries-Summer 2012
- Commercial operation by the end of 2012
- Economic impact-jobs and taxes



Tuscola County Cross Winds™ Energy Park

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Energy Future



- Covers 154 square miles
- Over 58,000 acres under easement
- Development Plan
 - Phase 1-150 MW-2015
 - Phase 2-100 MW-2022
- 5 operating met towers
- Transmission system upgrades required
- Steps to complete include:
 - Permitting
 - Development studies
 - Wind Turbine purchase
 - Construction contractor selection



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