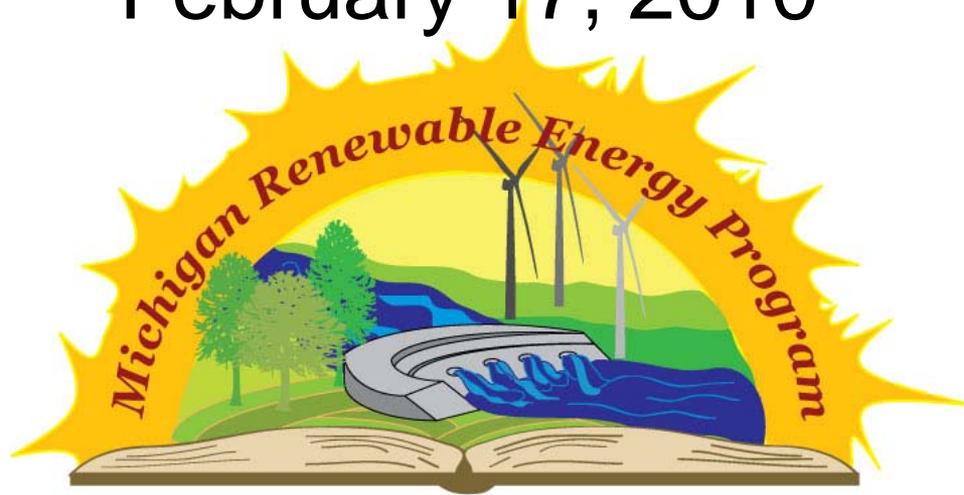


Growing Green Energy in Michigan

February 17, 2010



Michigan Public Service Commission

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Renewable Energy Section

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Disclaimer: Ideas presented are our own; not necessarily those of the MPSC or its staff.

1-Page Executive Summary

- RPS Plans must be filed by all electricity providers
- 10% RPS by 2015, with interim steps for 2012-13-14; two big utilities can own only 50% of new renewable facilities
- Energy Optimization Plans with energy efficiency & conservation programs for all customer classes; high standards for state government efficiency & conservation
- Wind Resource Zones may expedite transmission planning, siting & construction
- True net metering for ≤ 20 kW renewable generators; net metering for 20 kW - 150 kW generators, and up to 550 kW for methane digesters
- State income tax credits, for taxpayers within income limits, for some home energy improvements & RPS costs
- Limits Michigan electric customer choice to 10% of load

2008 PA 295 “Biomass” Definition

“Biomass” means any organic matter that is not derived from fossil fuels, that can be converted to usable fuel for the production of energy, and that replenishes over a human, not a geological, time frame, including, but not limited to, all of the following:

- (i) Agricultural crops and crop wastes.
- (ii) Short-rotation energy crops.
- (iii) Herbaceous plants.
- (iv) Trees and wood, but only if derived from sustainably managed forests or procurement systems, as defined in section 261c of the management and budget act, 1984 PA 431, MCL 18.1261c.

Biomass Definition (2)

- (v) Paper and pulp products.
- (vi) Precommercial wood thinning waste, brush, or yard waste.
- (vii) Wood wastes and residues from the processing of wood products or paper.
- (viii) Animal wastes.
- (ix) Wastewater sludge or sewage.
- (x) Aquatic plants.
- (xi) Food production and processing waste.
- (xii) Organic by-products from the production of biofuels.

Municipal Solid Waste (MSW)

- Electricity generated from MSW qualifies for consideration as renewable energy only under the provisions of Sec. 11(k)(iii). This provision of the Act qualifies electricity generated from **pre-existing** municipal solid waste incinerators only.
- For purposes of this portion of the Act, MSW means comingled household or commercial waste, such as garbage trucks deliver to landfills or qualifying MSW incinerators.

Municipal Solid Waste (2)

- For purposes of this portion of the Act, MSW does not mean any material that has been separated out of the MSW stream for recycling or any other commercial purpose including energy recovery. Nor is MSW any material that could be eligible to enter the MSW stream, but is separated prior to becoming comingled in the MSW stream.

MSW Exclusions

- Any household, commercial, or industrial waste material that has never entered the MSW stream or has been separated out of the MSW stream for any commercial purpose might produce either renewable energy or advanced cleaner energy under the provisions of Act 295. For such material to generate renewable energy, the material must meet the definition of “biomass” in Section 11(i), as further defined in Section 3(f).

MSW Exclusions (2)

- For such material to generate advanced cleaner energy, the material must be converted into electricity using an advanced cleaner energy system as defined by Section 3(c).
- Advanced Cleaner Energy Credits (ACECs) can substitute for Renewable Energy Credits (RECs) only if: (a) from industrial cogeneration (thermal, bottoming cycle only); or (b) pre-approved for substitution by MPSC. (Section 27(6)).



Consumers Energy Renewable Energy Plan

- Case No. U-15805.
- To add ~5.5% more renewable energy by 2015
- ~\$3.1 billion spending on renewable energy in next 20 years
- Wind: Build 450 MW; buy 450 MW
- Already using RFPs for procurement.
 - 6 contracts approved 10/12/09 in Case No. U-15805
- Experimental Advanced Renewable Tariff for up to 2MW of solar PV (12-yr contracts for systems <150kW; ~40-50¢/kWh)
~\$10 million program

Consumers RFPs & Contracts

- One RFP in process now, with bids from biomass facilities all over the state
 - Lots of bioenergy bids at competitive prices
- Recent contracts (Case No. U-15805):
 - Landfill gas, on-farm digester.
 - Roughly 11 to 15 cents/kWh.

Additional Consumers Energy RFP Activity

- Third Renewable Energy RFP
 - To be issued in late 2010
 - Total capacity of 200 MW to come online in 2016 and 2017



Detroit Edison Renewable Energy Plan

- Case No. U-15806
- To add ~8.5% more renewable energy by 2015
- \$3.1 billion spending on renewable energy in next 20 years.
- Lots of Advanced Cleaner Energy Credits (ACEC)
- Wind: Build 609 MW; buy 686 MW
- Small Solar PV program (5 MW): Pre-payment for 60% of 10-years triple-RECs to buy-down first cost. \$25 million total.
- Utility-built PV (15 MW): Leasing roofs for 15 MW of distributed solar, strategically placed to provide grid-supporting distributed benefits.

Detroit Edison RFPs

- Two RFPs
 - First: DTE ownership (or joint ownership)
 - Resource: Wind; 75 MW; Ongoing
 - Second: PPA
 - 106 MW
 - Issued in late 2009
 - May be any renewable energy resource
 - Selecting preferred bidders now, to begin contract negotiations
 - Lots of biomass energy bid; maybe duplicates of what is bid into Consumers Energy's RFP

Other Electric Providers

- Alternative Electric Suppliers, Cooperatives and Municipal Utilities
- Various levels of compliance with requirements of Act:
 - Range from no surcharge necessary (i.e., already meeting 2015 requirements) to maximum surcharge necessary
 - Most AESs filed plans (or notices); if not, their license was rescinded
- All Municipal Utilities plan surcharges to residential customers below the maximum allowed (occasionally zero)

Utility Bioenergy Plays

- Fuel blending in coal plants (Consumers, Edison, Lansing BWL, Wolverine Coop)
- Small scale combined heat and power (CHP) or “Recycled Energy” plants (e.g. Traverse City Light & Power)
- Possible new “Advanced Cleaner Energy” technologies (gasification, plasma arc gasification, other “new technologies”)

IPP & NUG Bioenergy Plays

- Wood-burners (already 1% of Michigan electricity supply)
- Farm & Community biomass to energy
 - Electricity
 - “Natural” Gas
 - Vehicle fuels
 - Cascade of Heat
- Wastewater Treatment Plants
 - Living Machines

“By the year 2020, Michigan will reduce our reliance on fossil fuels for generating electricity by 45 percent. We will do it through increased renewable energy, gains in energy efficiency and other new technologies.”

“[W]e’ll be spending our energy dollars on Michigan wind turbines, Michigan solar panels, Michigan energy-efficiency devices, all designed, manufactured and installed by. . .Michigan workers.”

“[T]his new energy sector represents our single best hope for new investment and new jobs... .”

– Governor Jennifer Granholm, SOS Address, Feb 3, 2009

Proposed Bioenergy Legislation

- House Bill 4137 introduced February, 2009 by Representative Gonzales.
- Standard Offer Contract or Feed-in-Tariff bill
 - Proposes 20 year contracts for biofuel including biomass (among other renewable sources) .
 - Electricity payments for biomass energy:
 - \$0.145 per kWh <150 kW
 - \$0.125 per kWh 150 kW - <500 kW
 - \$0.115 per kWh 500 kW - <5 MW
 - \$0.105 per kWh 5 MW - <20 MW
 - Reality check: New coal estimated at \$0.133/kWh, without Carbon Capture & Storage (CCS)

Other Proposed Bioenergy Legislation

- House Bill 4107 – Tax credit for the purchase of biomass stoves.
- House Bill 4170 – Tax credit for biomass gathering and handling.
- House Bill 4241 – Tax credit for the amount expended on biomass fuel.



- What – Michigan Renewable Energy Certification System
- Why – required by PA 295 Sec. 41 to establish a REC certification and tracking program
- How – open competitive bid process
- Who – APX, operating costs covered by user fees
- Where – <http://www.mirecs.org/>





Registration Procedures

- Review Operating Documents
 - Terms of Use
 - Operating Procedures
 - Fee Schedule
- Agree to Online Terms of Use
- Complete Account Application
- Account active after approval by MIRECS Administrator



Fee Structure

- Registration Fees
 - Accounts and projects (\$50-\$750)
- Subscription (annual)
 - Accounts and projects (\$50-\$3000)
- Volumetric (annual)
 - Electric Service Provider Fee: \$0.0035/MWh
 - e.g., Retail load of 100,000 MWh = \$350.00
 - No fee for MIRECS transfers



MIRECS Next Steps

- Functionalities deferred until after launch
 - Distributed generation aggregation
 - Energy Optimization Credits created from non-electric renewable resources (e.g., solar hot water, geothermal heat pump, etc.)
 - Imports-exports of RECs from other registries

Next Steps for MPSC & MPSC Staff

- Approving contracts for IPPs & NUGs
- Approving “utility-built” RE facilities
- Finalize Category 2 & Category 3 Net Metering Tariffs
- Biennial Review of Supplier RPS & EO Plans
- Annual RPS & EO Spending Reconciliations
- Staff working with NREL on “feed-in tariff” design concepts
 - Tentative Feed-in Tariff Conference, late March

Next Steps for You!

- Join MREP Email Distribution List (www.michigan.gov/mrep)
- Join MREP Biomass Committee (by direct notice to MREP Staff)
- Join Michigan Sustainable Energy Coalition (www.michigancleanenergy.com)
- Join Great Lakes Renewable Energy Association (www.glrea.org)
- Learn about MIRECS and sign up for MIRECS Updates (www.mirecs.org)
- Communicate with your legislators!

Conclusion/Summary

- Progress is being made
 - Commission is completing tasks assigned by legislature
 - Electric Providers are processing RFPs for procuring renewable energy
- Documentation from Renewable Energy Plan cases is available at <http://www.michigan.gov/mrep>. At MREP main page, look at the left hand column of links and click on: *PA 295 Cases* and also *Renewable Standard*



The screenshot shows the Michigan Public Service Commission website. The header features the DELEG logo and the text "Public Service Commission Energy, Labor & Economic Growth". Below the header, there are navigation links for "Michigan.gov Home", "MPSC Home", "Sitemap", "Contact MPSC", and "FAQ". A utility truck is visible on the right side of the header. The main content area is titled "renewable energy" and includes a sub-header "renewable energy" with a wind turbine icon. The text below reads: "The Michigan Renewables Energy Program (MREP) was established by the legislature, and implemented by the Public Service Commission, to promote the use of renewable energy in the state. A diverse group of individuals and organizations with knowledge and experience in energy production, technology, education, and policy development have been assembled to identify and address barriers to the advancement of renewables and recommend initiatives to increase renewable use in Michigan." At the bottom right, there is a link "> More".

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renewable energy

The Michigan Renewables Energy Program (MREP) was established by the legislature, and implemented by the Public Service Commission, to promote the use of renewable energy in the state. A diverse group of individuals and organizations with knowledge and experience in energy production, technology, education, and policy development have been assembled to identify and address barriers to the advancement of renewables and recommend initiatives to increase renewable use in Michigan.

> [More](#)

Renewable Energy

- > Calendar of Events
- > Customer Generation
- > Green Pricing Programs
- > MREP Committees
- > Net Metering
- > PA 295 Cases
- > Renewable Standard
- > Reports
- > Wind Energy Resource Zone Board