

Renewable Energy Modeling for 21st Century Energy Plan

Workgroup Meeting
August 9, 2006

MISO Queue Data Excerpt of Michigan Renewable Energy Projects as of August 2006

Source: MISO Generator Interconnection Queue: <http://www.midwestiso.org/page/Generator+Interconnection>

MISO Queue Num	County	In Service Date	Max Summer Output (MW)	Fuel Type	Point of Inter-connection
38068-02	Oceana/ Manistee	01-Oct-07	140	Wind	
38377-01	Sanilac/ Huron	01-Nov-06	36	Wind	DTE 41kV system near Talbot to Delaware/Neff/Sandusky ckts
38394-02	Huron	30-Oct-07	37.5	Wind	
38425-02	Huron	30-Oct-06	158	Wind	
38425-03	Sanilac	30-Oct-07	158	Wind	ITC 120kV circuit from Sandusky to Lee
38457-02	Oceana	01-Oct-06	100	Wind	White Lake Substation
38478-01		30-Oct-07	40	Wind	
38484-01		30-Oct-07	50	Wind	
38485-01		30-Oct-07	100	Wind	
38509-01	Huron	15-Oct-06	60	Wind	120 kV Bad Axe-Arrowhead line DTE
38660-01	Huron	01-Aug-07	60	Wind	Existing 120 kV line near Rapson Rd and Minden Rd.
38663-01	Missaukee	01-Aug-07	60	Wind	69 kV line near La Chance and Streif Roads
38715-02	Ontonagon	01-Jun-08	14	biomass	White Pine Sub
38835-02	Huron	30-Oct-07	37.5	Wind	
38835-03	Huron	30-Oct-07	37.5	Wind	
38835-04	Huron	30-Oct-07	37.5	Wind	
38888-01	Allegan	01-Jul-08	102	Wind	Argenta to Tallmadge 345 kV line
TOTAL MW			1228		

Basic Methods for Analysis

- Start with new forecast demand in MWh (base case, $\pm 10\%$ for High/Low Loads)
- Calculate renewable resources MWh, as % of forecast, using recommended RPS percentages.
- Reality Check: Can conservatively estimated renewable energy, at conservatively estimated capacity factors, meet those percentages (including biomass-fired CHP)?
- If yes, proceed with STRATEGIST modeling



Planned 21st Century Energy Plan STRATEGIST Scenarios & Sensitivities

Rerun Traditional Scenario	Updated Costs & Data	High /Low Loads	Transmission Reduction	Other?
Rerun Emissions Scenario	Yes	Yes	No	Full Renewable + Conservation
Rerun Renewable (AltTech) Scenario	Yes	Yes	Yes	RPS%
Rerun Conservation (Efficiency) Scenario	Yes	Yes	Yes	
New Renewable + Conservation	Yes	Yes	Yes	
New Traditional w/ CT's only	Yes	Yes	Yes	

Possible Renewable Energy Links in the Policy Proposals

- **Central Station Matrix:**
 - Regularly scheduled planning process, which includes review of renewable energy resource options?
- **Energy Efficiency Matrix:**
 - Funding mechanisms?
 - Statewide administration?

Comments Due August 21

- Policy Ideas – About RPS and Distributed Resource Policy Issues, and how those concepts and proposals relate to Central Station and Energy Efficiency proposals
- Review & comment on RPS details
- Review draft outline of report & tell us what's missing



Upcoming Meetings

- August 22, full 21st Century Energy Plan group, with speakers about IGCC and PC plants (10a-noon at MPSC Offices)
- September 13, Workgroup Meeting @ MPSC, 9:30-11:30a.
- Possible Policy Team Meeting?
- Possible Resource Team Meeting and/or review analysis by email?

