

The Benefits of Biomass

Why the MPSC should help bridge the gap.



TRAXYS

Traxys Power Group, Inc.

Traxys Power Group - LWEC

L'Anse Warden Electric Company, LLC

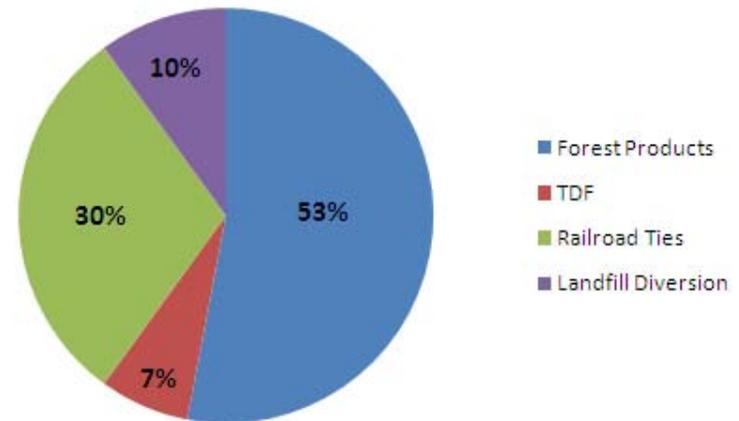
- 20 MW biomass facility
- 17 On site full time jobs + 5 admin staff in WP
- 40+ spin off jobs in wood supply
- MISO Market Participant
- 40,000 lbs per hour of process and heating steam
- First biomass plant to come online in Michigan since the passage of Senate Bill #213 (Renewable Energy Portfolio and Energy Efficiency Act)
- Awarded the “Industry Conservation Award” in 2010 from the State of Michigan for converting to biomass from coal – all emissions testing showed results well with in State and Federal limits.
- Serving a 20 year Renewable Power Purchase Agreement with DTE.
 - Currently on pace to exceed 110% of contractual requirements.
 - Working on efficiency and output improvements (over-fire air improvements, etc.)



Traxys Power Group, Inc - LWEC

L'Anse Warden Electric Company, LLC

- 20 MW biomass facility that burns about 500 tons of fuel on a daily basis
- The majority of the wood is low grade biomass, diseased wood and non-marketable species
- LWEC diverts about 65,000 tons from landfills every year
- The fuel consists of railroad ties, construction debris waste, stumps and TDF (tire derived fuel)



TRAXYS

LWEC - MUCC 2010 Award

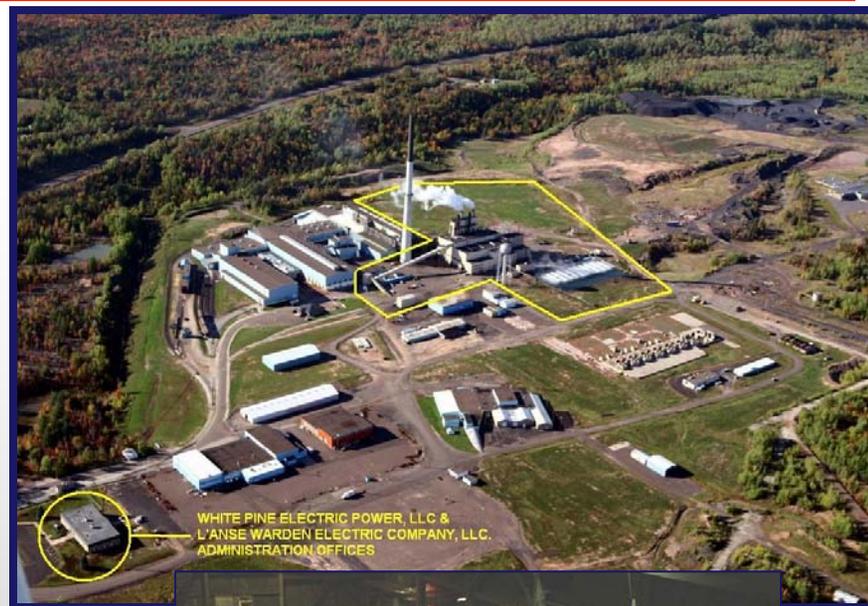
L'Anse Warden was awarded the 2010 "Industry Conservation Award" for converting the coal facility into a biomass facility.



Traxys Power Group, Inc – WPEP Conversion

White Pine Electric Power, LLC

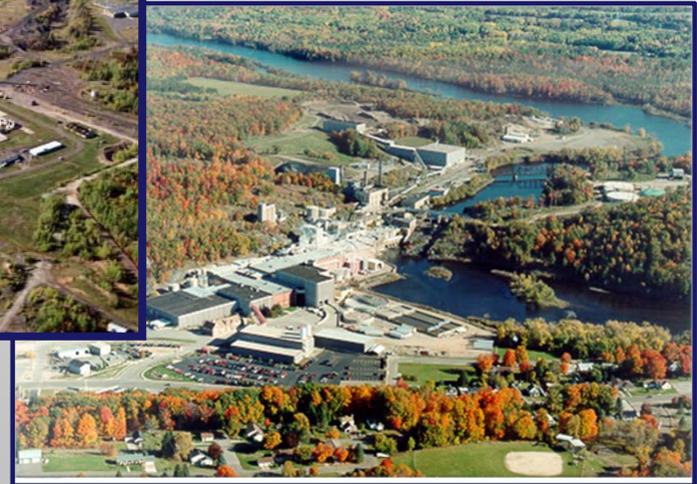
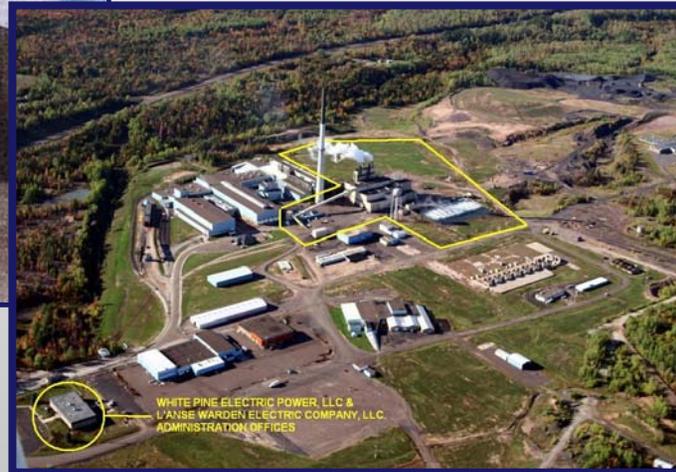
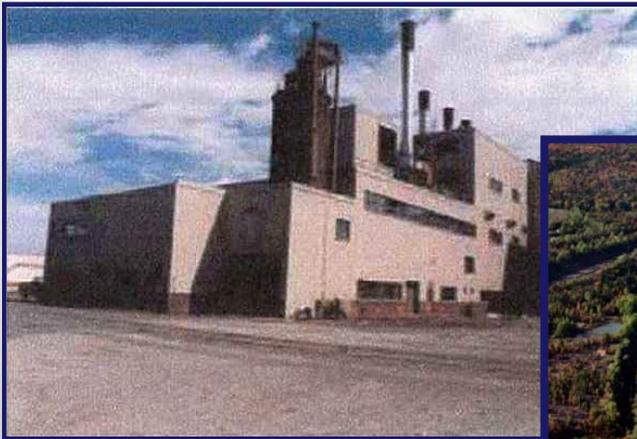
- New CFB (circulating fluidized bed) boiler to be installed behind the power plant
- This type of boiler will be able to burn lower grade fuels than L'Anse...sawdust, bark, railroad ties, TDF (Tire Derived Fuel), C&D (construction and building debris)
- New emission equipment will be installed
- Would retain or create 20 on site and 40 spin off jobs.



Traxys Power Group

Potential Projects

- Traxys Power Group (TPG) holds two permits and multiple potential site locations that are prime for biomass conversion similar to LWECC.
- These sites are either idle facilities or located at a site with steam off-take opportunities that will provide significant cost advantages over competition and provide regional voltage support (small local baseload generation) to help mitigate need for excess transmission construction.



Closed Loop Biomass Benefits & Incentives

- 2.2 cent kWh for closed-loop biomass as part of a Production Tax Credit for generation facilities for the first ten years of operation (LWEC utilized 1603 option – 30% payment in lieu of tax credits)
- RPS program requires Michigan utilities to buy Michigan green energy.
- The Upper Peninsula has thousands of acres of unused land available for planting closed loop biomass.
- We are not competing for high value land used for corn or soybeans.
- Gives the end user price surety of the final product and product is insurable
- Doesn't impact the high end value of chips for the paper industry
- Higher BTU values if the wood is staged for usage
- Creates jobs in the UP



The Power of Wood

- Recent reports are showing that the cost of renewables continues to trend downward. Michigan shows reports that “levelized” pricing of \$98.94/MWh for Consumers and Detroit Edison Biomass Power vs. the \$107 - \$133/MWh for new coal
- In April 2012, the U.S. Senate Committee on Agriculture, Nutrition and Forestry adopted an amendment that restores \$800 million in mandatory funding for the Biomass Crop Assistance Program (BCAP). It still has to pass the Senate and House.
- LWEC was an approved Biomass Conversion Facility under the first round of the BCAP program that allowed its fuel supplier to receive matching funds from the Feds and is committed to future utilization of BCAP.
- BCAP provides incentives to providers of biomass feedstock as a means to increase material available for bioenergy production.

Traxys Power Group, Inc.

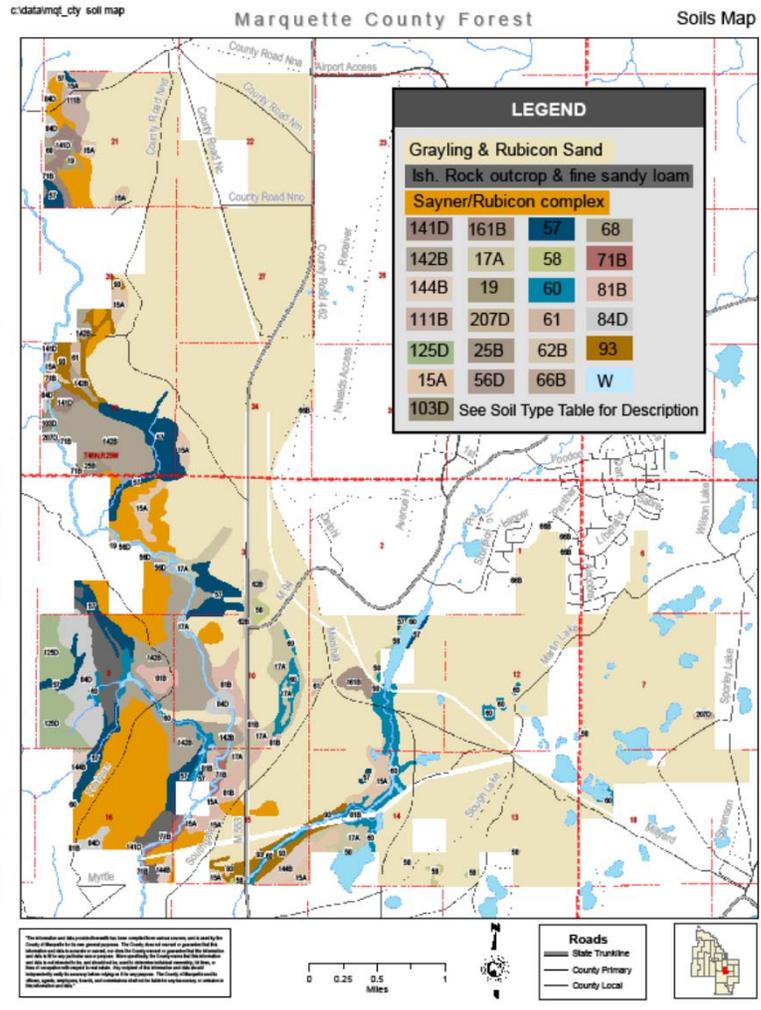


Table-Soils Type

Map Legend	Acres	Soil Description
0043		Grayling and Rubicon sand
602		Rubicon-Sayner complex
108		Ishpeming-Rock outcrop complex and Penoce fine sandy loam
142B	466	Pelissier gravelly sandy loam, 1 to 6 percent slopes, rocky
57	322	Carbondale and Tawas soils
60	211	Histonols and Aquents, ponded
15A	180	Croswell sand, 0 to 3 percent slopes
17A	175	Au Gres sand, 0 to 3 percent slopes
84D	164	Rubicon-Ishpeming-Rock outcrop complex, 6 to 25 percent slopes
81B	143	Pelissier gravelly sandy loam, 1 to 6 percent slopes
125D	134	Keweenaw-Kalkaska-Rock outcrop complex, 6 to 25 percent slopes, very bouldery
93	121	Tawas-Delford mucks
W	100	Water
141D	61	Pelissier-Rock outcrop complex, 6 to 25 percent slopes
144B	55	Farguar gravelly sandy loam, 0 to 4 percent slopes
111B	51	Grayling sand, 0 to 4 percent slopes, rocky
71B	50	Uvart-Pelkie-Sturgeon complex, 0 to 4 percent slopes
58	43	Greenwood and Dawson soils
02B	26	Udorthents and Udpsamments, nearly level and gently sloping
161B	25	Yellowdog very channery sand, 0 to 6 percent slopes, stony
25B	19	Munising-Yalmer complex, 1 to 6 percent slopes
61	14	Pits, borrow
19	12	Delford muck
207D	11	Dishno-Michigamme-Rock outcrop complex, 6 to 25 percent slopes, very bouldery
66	8	Pits, guanoes
50D	6	Peshkeke-Rock outcrop complex, 6 to 18 percent slopes, very bouldery
103D	7	Rubicon-Oaqueoo-Rock outcrop complex, 6 to 25
68B	2	Udpsamments-Urban land complex, nearly level and gently sloping

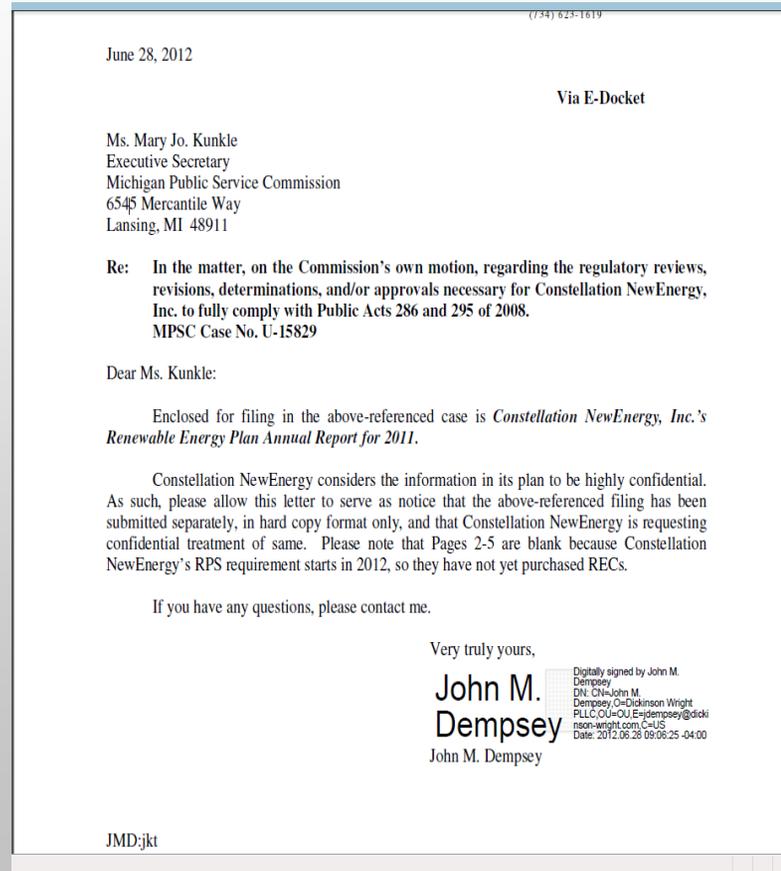
Significant amount of farmland is available in Marquette County and within 100 mile radius for closed loop biomass production

Why hasn't TPG or other Michigan based companies started conversion?

- TPG took significant market risk when jumping the gun without contracts in hand with the LWEC conversion. Would need PPA prior to engaging EPC contractor and further spending at facilities.
 - While running with no contract, significant amount of LWEC generation went to open market at DALMP and gained little value for RECS.
- Per Michigan Law, only DTE and Consumers are required to purchase “bundled” component from renewable facility. Other entities we’ve spoken with have only been interested in “REC only” type contracts.
- We are concerned that the lack of language regarding penalties for non-compliance of the 10% requirement has resulted in a culture of avoiding the requirement vs. working to meet the standard.

Fear of off-ramps?

- We feel smaller Michigan utilities and large AESs are spending for MPSC to allow “off ramp” to not meet the 10% requirement vs. spending to meet the requirement.
- Concerns with specific filings – Constellation’s 2012 renewable filing is locked – “Highly Confidential”?



Fear of off-ramps?

- We see many filings referring to vague Michigan sources – where are these RECS coming from?
- Below is an excerpt from the Wolverine Power Marketing Cooperative, Inc. Renewable filing from 2011 – where are these sources? Most smaller utilities reference these vague projects or purchase from brokers.
- Brokers have been calling us stating they are short and need RECS in years to come to meet sales need, but only willing to buy REC only packages. Everyone is long now due to banking ability in the current law. Where are these “renewable sources?”

6 Q₉ DO YOU BELIEVE THAT THE APPROVED PLAN WILL ALLOW WPMC TO
7 MEET PA 295'S REQUIREMENTS?
8 A₉ Yes. After available banked RECs have been exhausted (not estimated to occur
9 until after January 2013) WPMC will meet its renewable energy requirements
10 through REC purchases and renewable power supply purchases from renewable
11 resources located in the state of Michigan. WPMC will assess incremental
12 charges, if any, up to but not exceeding the allowed caps specified in Section
13 45(2) of PA 295, of \$16.58 per month for commercial secondary customers and
14 \$187.50 per month for commercial primary or industrial customers per meter.

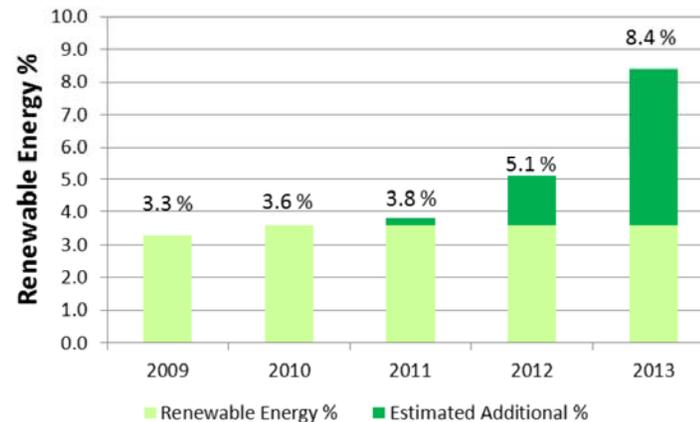
ided (325.34 KB of 443.87 KB) : http://efile.mpsc.state.mi.us/efile/docs/16653/0004.pdf

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Capacity Factor fears?

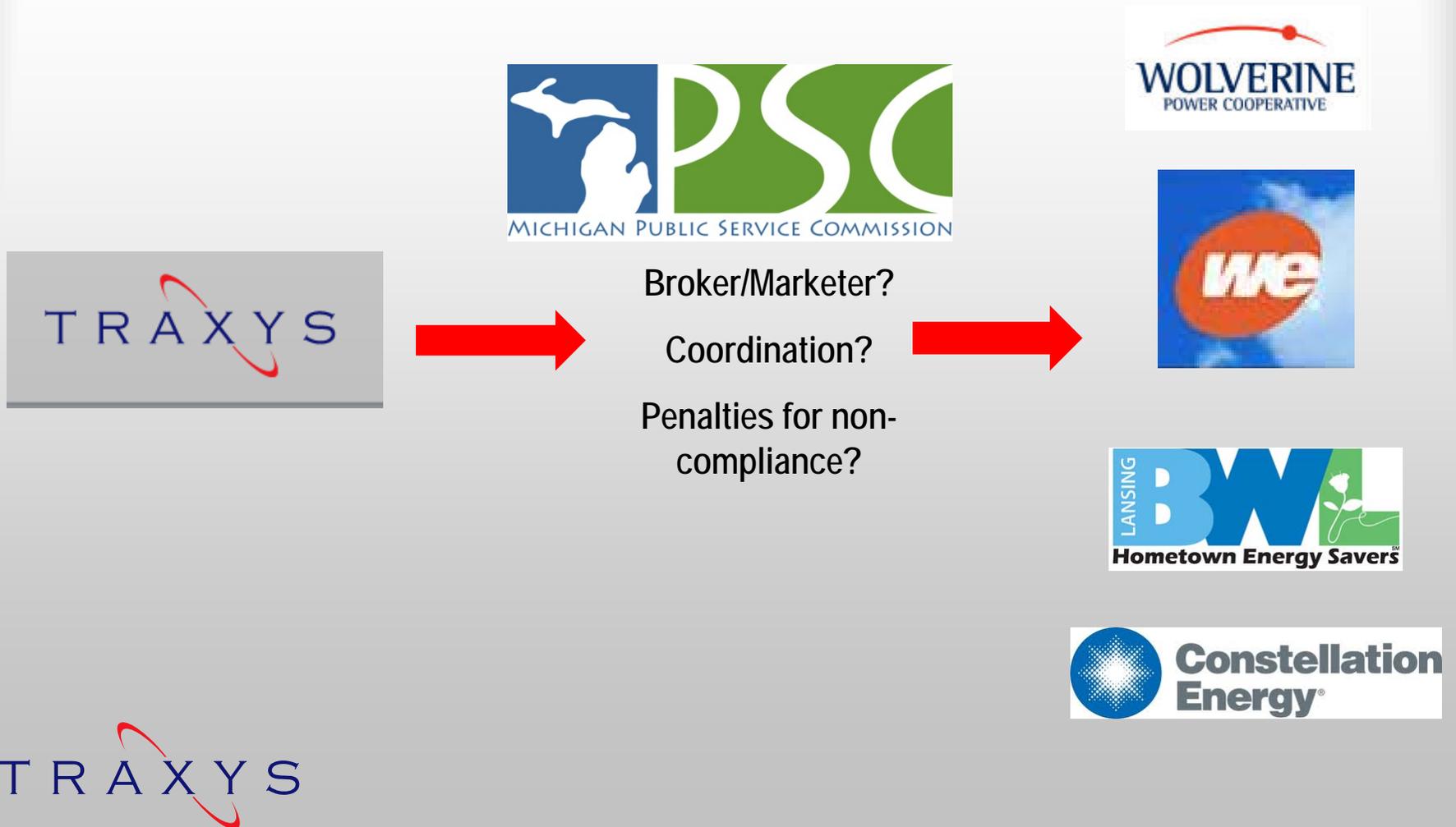
- How does the MPSC forecast wind farm capacity factors in graphs such as the one below? We've seen capacity factors (CF) for wind go from mid 20%, to 30%, some reports as high as 47%. What happens if a planned facility goes from 47% to 27%?
- Biomass CF is around 90%. LWEC will meet 110% of its capacity requirements for 2012 and forecasts the same and increasing in years to come.
- The value of controlled, dispatchable renewable power vs. an uncontrolled, undispachable energy (wind), makes biomass a good fit to meet multiple small utilities needs in Michigan.

MPSC Staff Estimated and Projected Renewable Energy % Based on Act 295 Contracts Filed at the Commission



MPSC – Bridge the gap?

What can be done to coordinate small projects such as ours to multiple small utilities or AES in order to help them meet compliance with a controllable, dispatchable, reliable renewable biomass resource.



MPSC Goals



LARA Public Service Commission
Department of Licensing and Regulatory Affairs

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about the mpsc

The mission of the Michigan Public Service Commission is to grow Michigan's economy and enhance the quality of life of its communities by assuring safe and reliable energy, telecommunications, and transportation services at reasonable rates.

Goals

- Establish fair and reasonable rates for regulated services and adopt and administer fair terms and conditions of service for the State's utility customers.
- Assure adequate and reliable supplies of regulated services to all Michigan customers, and the safe and efficient production, distribution, and use of the State's energy, telecommunications, and transportation services.
- Assure the security of the State's critical infrastructure by promoting homeland security.
- Promote the State's economic growth and enhance the quality of life of its communities through adoption of new technologies like broadband telecommunications and efficient renewable energy resources.
- Provide customers with the opportunity to choose alternative electric, natural gas, telecommunications, and transportation providers.
- Provide regulatory oversight in a prudent and efficient manner while implementing legislative and constitutional requirements.

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Summary

- **Traxys Power Group has proven success with conversion of LWEC plant and DTE contract.**
- **TPG has plants and permits ready to go and create jobs.**
- **Fear that off ramps will be preferred route for many utilities and AES in Michigan.**
- **What can be done by MPSC to coordinate potential job creating projects, using Michigan resources to meet the intent of the law, create renewable energy and create and maintain Michigan renewable jobs?**