

# MREP Biomass Committee

Organizational Meeting

# Agenda

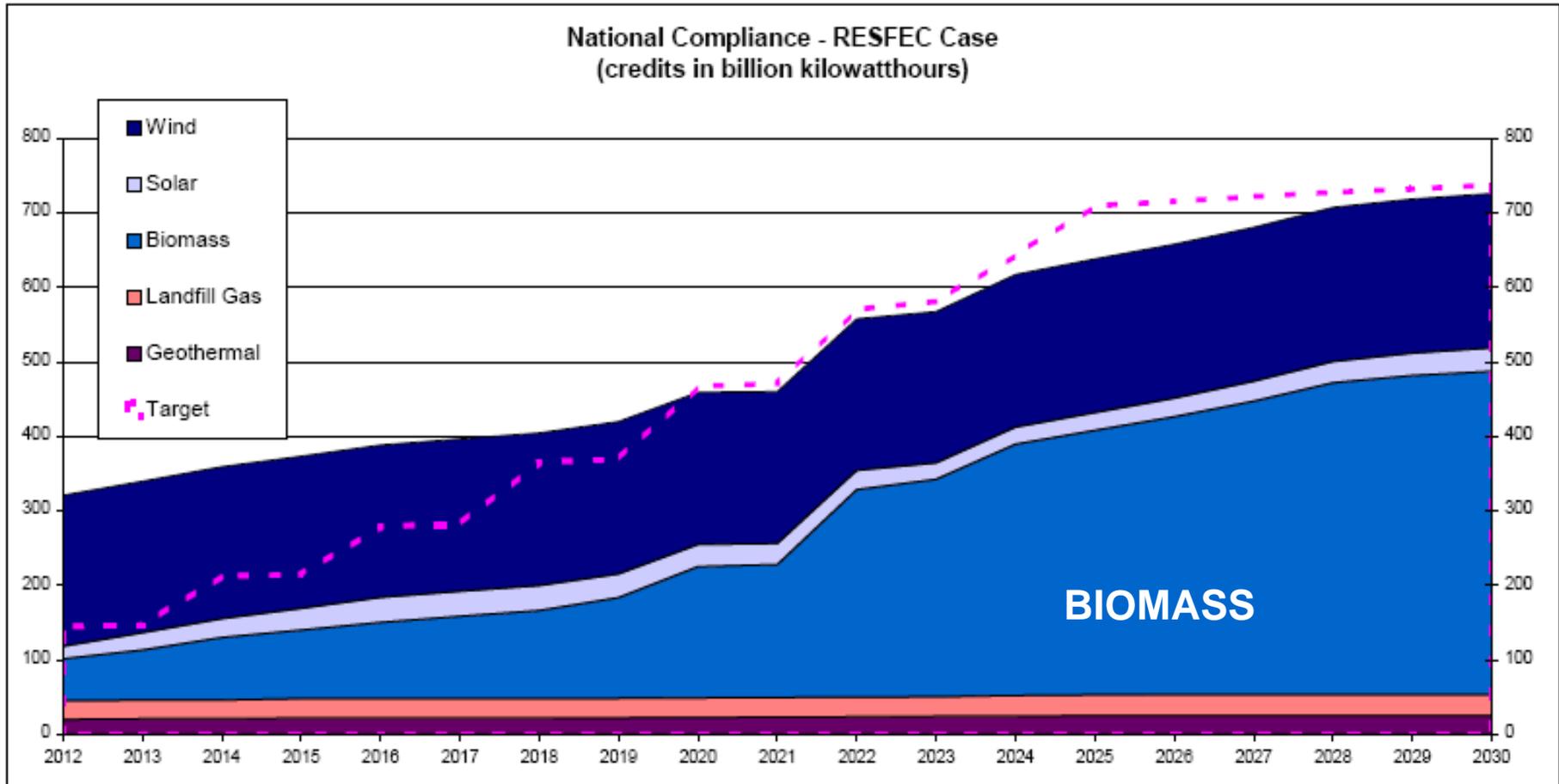
- ▶ Welcome, introductions & review
  - Gary Melow, Michigan Biomass
  - Christine Battiste, MPSC
  - Tania Howard, Michigan Energy Office
- ▶ Biomass mapping tool
  - Steve Miller, MSU
- ▶ Organizational structures
- ▶ Overarching issues

# MREP

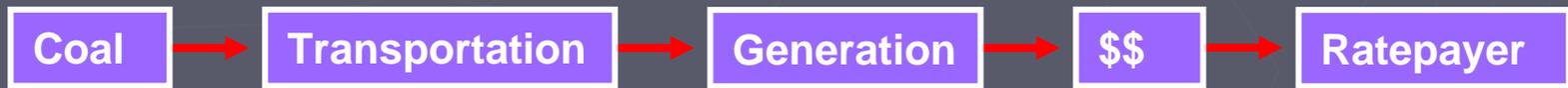
- ▶ PA 141 of 2000
- ▶ **Sec. 10q(6)** *The program shall be designed to inform customers in this state of the availability and value of using renewable energy generation and the potential of reduced pollution. The program shall also be designed to promote the use of existing renewable energy sources and encourage the development of new facilities.*

# Role of biomass

*EIA, Waxman/Markey RES*



# Energy models



## Feedstock markets/economics

Agriculture  
Forest products  
Manufacturing  
Food processing



## Off-take markets/economics

Manufacturing  
District heating  
Food processing

# Current potential demand

## *Forest resources*

<u>Facility</u>	<u>Type</u>	<u>Green tons</u>
Cadillac Renewable Energy	Electricity*	482,501
Genesee Power Station	Electricity	482,501
Grayling Generating Station	Electricity	482,501
Hillman Power Co.	Electricity	241,250
Viking Energy/Lincoln	Electricity	241,250
L'Anse Warden Electric	Electricity	241,250
Viking Energy/McBain	Electricity	241,250
Burn Right Pellets Inc	Pellets	1,812
Enviro Industries, Inc.	Pellets	1,420
Wolverine Pellet Company	Pellets	4,090
Maeder Brothers	Pellets	1,252
Monarch Mill Works	Pellets	3,402
<u>All industrial heat &amp; power</u>	<u>CHP</u>	<u>1,241,122</u>
<b>Potential <u>existing</u> demand</b>		<b>3,665,602</b>

**\*Note:** Consumption based on 1.7 green tons per MWh @ 90% efficiency

# Future potential demand

## *Forest resources*

<u>Facility</u>	<u>Type</u>	<u>Green tons</u>
Central Michigan University	Electricity*	227,848
Traxys Energy/Esanaba	Electricity	335,070
Traxys Energy/Gwinn	Electricity	268,056
Mancelona Renewable Resources	Electricity	482,501
Novi Energy/Newberry	Electricity	321,667
Northern Michigan University	Electricity	134,028
Traxys Energy/White Pine	Electricity	670,140
New Page	CHP	325,000
Verso	CHP	335,070
Frontier Renewable Energy	Liquid fuel	1,000,000
Kirtland Products, LLC	Pellets	71,000
RenewaFUEL	Pellets	300,000
<b>Potential <u>new</u> demand</b>		<b>4,470,380</b>

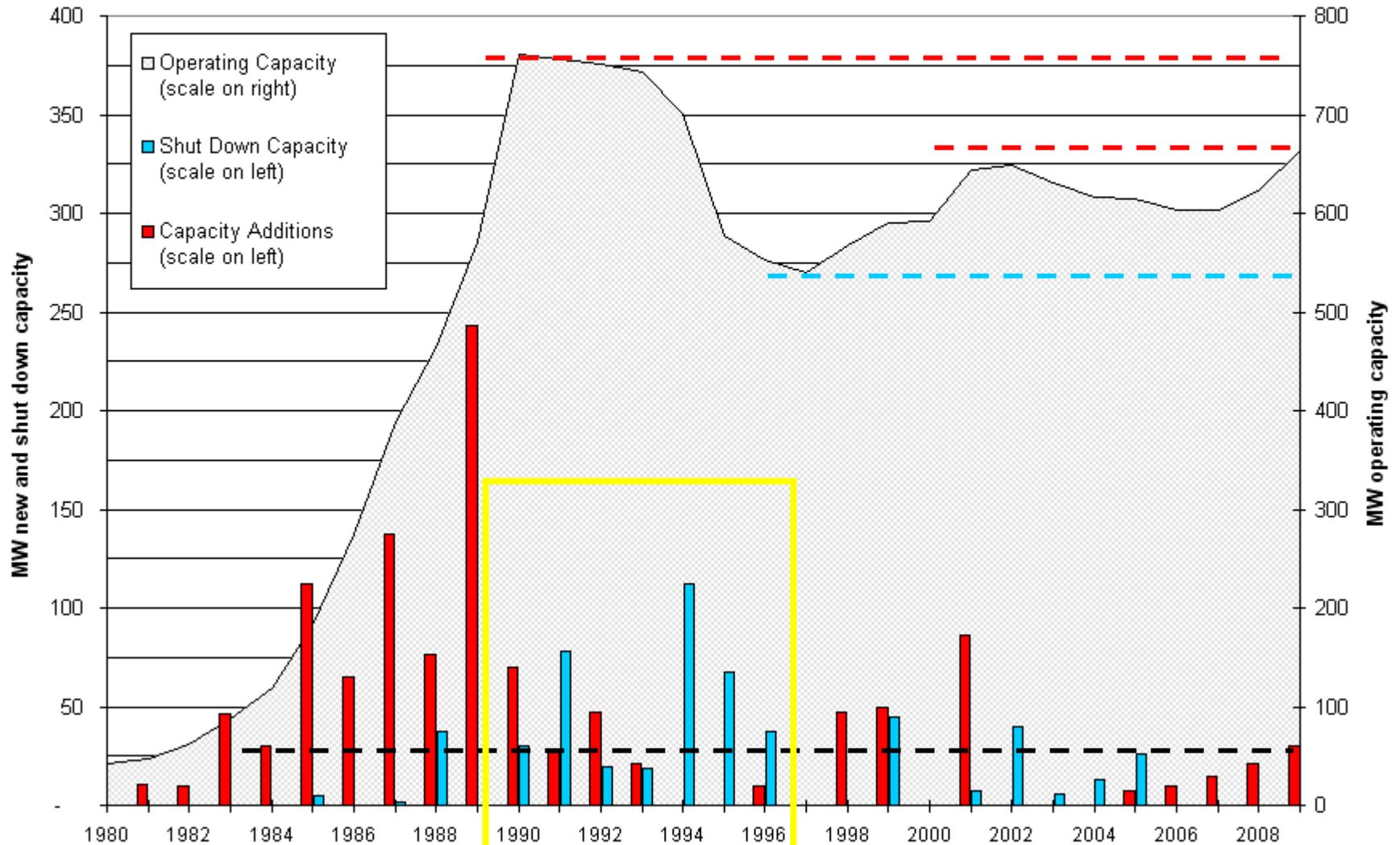
**\*Note:** Consumption based on 1.7 green tons per MWh @ 90% efficiency

# Current vs. Future demand

*Forest resources*

Potential existing demand	3,665,602
Potential new demand	4,470,380
<hr/>	
<b>INCREASE</b>	<b>122%</b>

# California Biomass Power Capacity



# Forest resources

- ▶ 19.3 million acres: 53% land mass
  - Incr. 6%, 1980
  - 65% private
    - ▶ 57% non-industrial (ave. <27 acres)
    - ▶ 8% forest industry
  - 35% public
    - ▶ 14% national
    - ▶ 20% state

Source: Michigan Forest Products Council

# MCAC report

## Available woody biomass

■ Unharvested fiber (<5")	13.4 million tons
■ Saw timber	10.6 million tons
■ Pulpwood	9.4 million tons
■ Urban wastes	2.2 million tons
■ Logging residue	1.5 million tons
■ Roads, ROW, clearing	160,000 tons
■ Secondary mill waste	158,000 tons
■ Primary mill waste	75,000 tons

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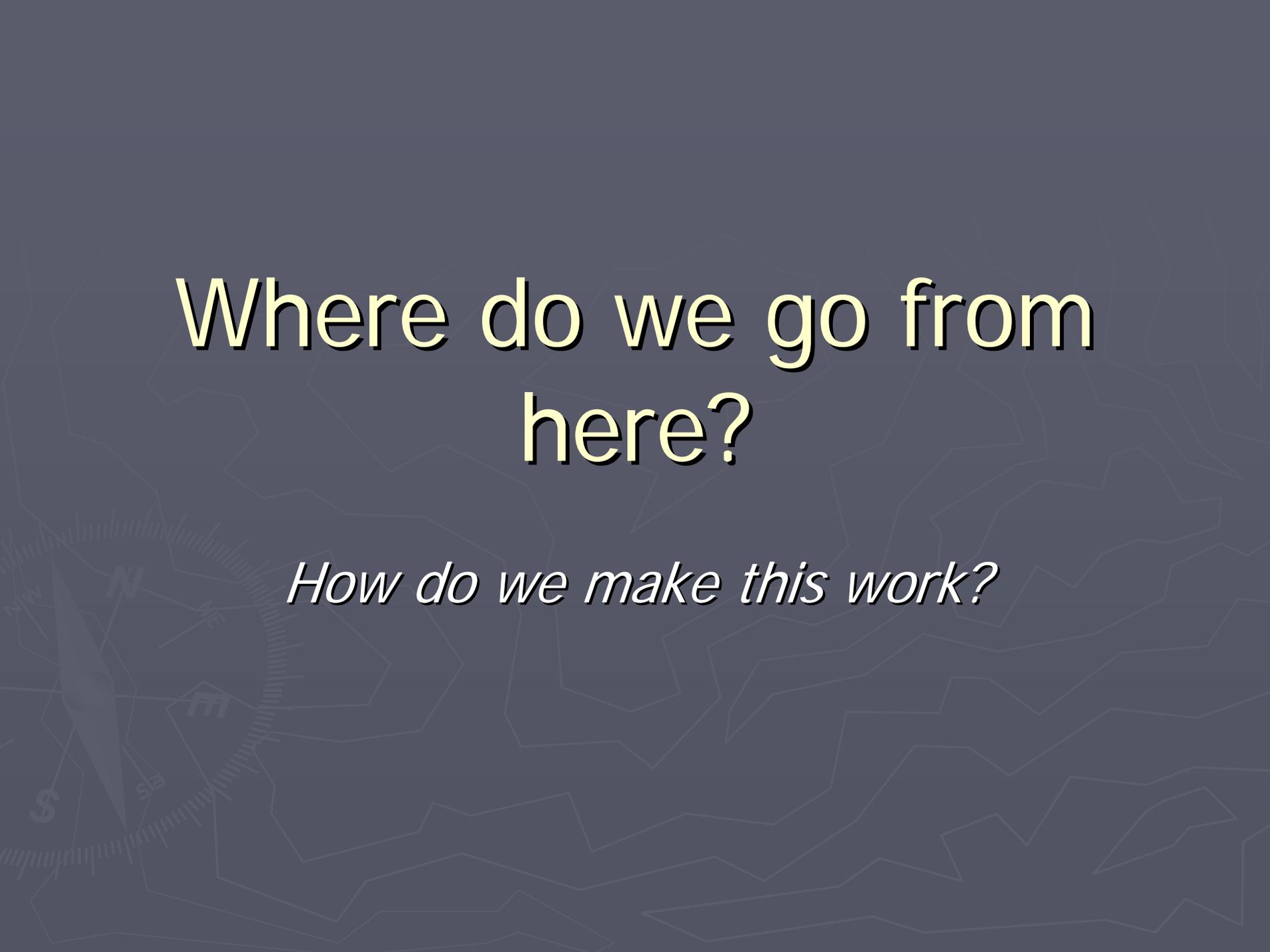
**TOTAL**

**37.5 million tons**

Source: Michigan Climate Action Council Report March 2009,  
Table J-1. Potential annual biomass resource availability, pg J-7

# Non-forest resources

- ▶ Ag crops
- ▶ Bio-solids
- ▶ Food industry
- ▶ Dedicated energy crops
- ▶ By products
- ▶ ????????

The background is a dark blue-grey color. On the left side, there is a faint, light-colored compass rose with a needle pointing towards the bottom-left. The compass rose has markings for North (N), South (S), East (E), and West (W). To the right of the compass rose, there is a faint outline of a map of the United States. The main text is centered in the upper half of the image.

Where do we go from  
here?

*How do we make this work?*



# MREP overview

Christine Battiste

# Michigan Energy Office

Tania Howard

# Biomass Inventory Online Mapping Tool

Steve Miller

# Structure

- ▶ Steering committee
  - Direction / Framework
  - Administration / Schedules / Agendas / Logistics
- ▶ Feedstock
  - Forest resources / Ag resources / MSW, sludge, etc.
  - Residues / Cultivated / Transportation / Sources
- ▶ Environmental, health & safety
  - Carbon neutrality
  - Regulatory
    - ▶ MACT
    - ▶ EPA Tailoring Rule
  - Public outreach
- ▶ Technologies
  - CHP
  - Gasifiers
  - Power generation
  - Transportation fuels
  - Solid fuels

# Potential issues

- ▶ Feedstock
  - Availability
  - Accessibility
  - Affordability
- ▶ Economic models & structures
- ▶ Supply infrastructure
- ▶ Regulatory structures
- ▶ Enabling / Disabling policy

# Resources & information

- ▶ Michigan Climate Action Council report March 2009, AFW section
  - The Macroeconomic Impact of the Michigan Climate Action Council Climate Action Plan on the State's Economy
- ▶ Inventory systems
- ▶ Jobs Impact of a National Renewable Electricity Standard – Navigant
- ▶ Bio-energy and Greenhouse Gases – Pacific Institute
- ▶ Biomass Sustainability and Carbon Policy Study (*et al*)
  - Manomet Center for Conservation Science (et al)
- ▶ Energy Information Agency: Study on Waxman/Markey RES bill
- ▶ Biomass workshops, DELEG, IPU
- ▶ Publications

# What's next?

- ▶ Meetings & schedules
- ▶ Information & communications
- ▶ Decision making
- ▶ Resources
- ▶ Action items