

## Wind on the Wires Response: OMS Survey of RECB Stakeholders

### A. Renewable Energy and Renewable Portfolio Standards (RPS)

1. What do you consider the likelihood that a federal RPS will be approved by congress?

:	Highly Likely (over 80%)	Likely (60-80%)	Neutral (40-60%)	Unlikely (20-40%)	Highly Unlikely (less than 20%)
By 2010	<b>XX</b>				
By 2020	<b>XX</b>				

2. Do you believe your state(s) will have state RPS whether or not there is a federal RPS? If your state(s) already has(have) an RPS please indicate this.

**Wind on the Wires believes the table below is a good estimate of the existing state renewable requirements and goals. While, we do believe a national RPS is likely in the next year or two, even without that, we expect additional states in the Midwest to adopt renewable energy requirements, and some states to increase their requirements.**

	RPS Requirements	Estimated RPS Demand
<b>Iowa</b>	2% by 1999	105 MW
<b>Illinois</b>	25% by 2025	10,000 MW
<b>Michigan</b>	10% by 2015	1,100 MW
<b>Minnesota</b>	25% by 2025	6,000 MW
<b>Missouri</b>	15% by 2021	3,000 MW
<b>Ohio</b>	12.5% by 2015	6,000 MW
<b>Wisconsin</b>	10% by 2015	1,500 MW
<b>North Dakota</b>	Goal 10% by 2015	350 MW
<b>South Dakota</b>	Goal 10% by 2015	350 MW

**In addition, the following table represents estimates of the amount of wind energy needed to meet the Midwest Governors Association goals set in 2007.**

<u>Milestones*</u>	<u>% electric energy consumed</u>
10% by 2015	32,000 MW
20% by 2020	70,000 MW
25% by 2025	95,000 MW
30% by 2030	125,000 MW

\* The milestones were calculated from the electric energy consumed by state (base and growth rates projected from EIA data), applying the milestone percentage, and then calculating a

required wind installed capacity (rated nameplate) by applying an approximate net annual wind capacity factor for each state. No additional energy efficiency efforts or wind technology improvements are included in this analysis.

3. What percentage of electricity consumed in your state(s) will come from renewable energy?

Time Frame	Less Than 5%	5% - 10%	10%-15%	15%-20%	Above 20%
By 2010					
By 2020					
By 2030					

4. Wind generation appears to be the most significant renewable energy source in the MISO footprint, with the highest capacity factor potential being located in the Upper Great Plains states (Montana, North Dakota, South Dakota, Minnesota and Iowa). What is your forecast of the percentage of wind generated electricity consumed in your state(s) that will be imported from these high capacity factor wind resources? Is your state one with a high capacity factor potential for wind (35% or greater)? \_\_\_ Yes \_\_\_ No

Time Frame	0%	25% or less	25%-50%	50%-75%	Above 75%
By 2010					
By 2020					
By 2030					

5. MISO has areas (i.e., Upper Great Plains state) with high capacity factor potential for wind. What do you consider the likelihood that wind generated energy will be exported from MISO to other regions in the eastern interconnection?

	Highly Likely (over 80%)	Likely (60-80%)	Neutral (40-60%)	Unlikely (20-40%)	Highly Unlikely (less than 20%)
By 2010			<b>XX</b>		
By 2020	<b>XX</b>				
By 2030	<b>XX</b>				

## B. Demand Response Resources and Energy Efficiency

1. What do you expect to be the amount of demand response resources as a percent of total peak demand for the load in the MISO region?

Time Frame	Less Than 4%	4% - 6%	6-8%	8% - 12%	Greater Than 12%
By 2010					
By 2020					
By 2030					

2. In addition to traditional demand response programs, what percent of the peak load reductions in the MISO region do you expect to be attributed to price responsive demand? Price responsive demand is a reduction in usage caused by users responding to real-time retail energy prices rather than paying average retail rates that do not change coincident with changes in wholesale prices.

Time Frame	Less Than 4%	4% - 6%	6-8%	8% - 12%	Greater Than 12%
By 2010					
By 2020					
By 2030					

3. Residential and commercial energy efficiency improvements including appliances, heating and cooling equipment and other consumer goods are required by the Energy Policy Act of 1995 and the Energy Independence and Security Act of 2007. The American recovery and Reinvestment Act of 2009 ties state energy grant money to updated building codes. How significant do you believe that these increased energy efficiency standards will be on the growth in electric energy use that would otherwise occur?

Time Frame	Less than 2% Reduction	2-5% Reduction	Over 5% Reduction
By 2010			
By 2020			
By 2030			

4. What do you consider the likelihood that federal legislation will be enacted requiring additional efficiency design improvements above those required to date?

	Highly Likely (above 80%)	Likely (60-80%)	Neutral (40-60%)	Unlikely (20-40%)	Highly Unlikely (below 20%)
By 2010					
By 2020					

5. What do you consider the likelihood that additional energy efficiency programs or changes in retail rate design intended to promote energy efficiency will be implemented in your state(s)? Energy efficiency programs refers to programs designed to reduce customer usage that would otherwise not decrease; e.g., in response to higher prices.

	Highly Likely (above 80%)	Likely (60-80%)	Neutral (40-60%)	Unlikely (20-40%)	Highly Unlikely (below 20%)
By 2010					
By 2020					

### C. Carbon Policy

1. What do you consider the likelihood that federal legislation will be enacted requiring some form of carbon reductions from power plant emissions?

	Highly Likely (above 80%)	Likely(60- 80%)	Neutral (40-60%)	Unlikely (20-40%)	Highly Unlikely (below 20%)
By 2010		<b>XX</b>			
By 2015	<b>XX</b>				
By 2020	<b>XX</b>				

2. Do you believe that a carbon tax or cap and trade policy is more likely?

Carbon Policy	Most Likely (Check one)
Carbon Tax policy that would establish a tax schedule on carbon emissions from power plants.	
Cap and Trade policy that would establish emission limits, feature emission credits and allow trading of emission credits.	<b>XX</b>

3. For purposes of modeling carbon policy, whether a tax or cap and trade system are established, a carbon cost \$/ton of emissions is needed. What do you believe is an appropriate value to be used?

\$0-\$10/ton	\$10-\$20/ton	\$20-\$30/ton	\$30-\$40/ton	Above \$40/ton
				<b>XX</b>

### D. Fossil Fuel Prices

1. Natural gas prices have changed over the past several years. For purposes of modeling, natural gas price assumptions can be critical. What is a reasonable level to assume for natural gas price ranges for 2010? Price are in \$/MMBtu

Scenario	\$5 - \$7	\$7 - \$9	\$9-11	Above \$11
Low				
Mid				
High				

2. For purposes of modeling, what annual rate of escalation after 2010 should be used for natural gas prices over a twenty-year planning horizon?

Scenario for 2010	Less Than 3%	3%-5%	Over 5%
Low			
Mid			
High			

3. Over the same twenty-year planning horizon, how do you expect coal price to escalate compared to natural gas prices?

Scenario	Below NG rate	At NG Rate	Above NG Rate
Low (Assume Strong Carbon Policy)			
Mid (Assume Most Likely)			
High (Assume Coal Exports Increase)			

## E. Generation Types and Locations :

1. What do you expect to be the amount of short term (less than one day) storage resources as a percent of total peak demand for the load in the MISO region?

Time Frame	Less than 2%	2%-6%	6% - 8%	8% - 10%	Greater Than 10%
By 2010					
By 2020					
By 2030					

2. Location of Future of Generation:

- a. What assumption should be made regarding the location of future nuclear generation?

Assumptions	Likely	Not Likely
Located at or near present nuclear facilities.		
Assume that no new facilities will be within 200 miles of a major metropolitan area.		
OTHER		

- b. What assumption should be made regarding the location of future coal generation?

Assumptions	Likely	Not Likely
Located at or very near present coal generating facilities.		
Located near coal mines but not necessarily at or near current plants.		
Assume an increase in Upper Great Plains coal plants.		
OTHER		

## F. Respondent Information

1. Primary Business Interest of your division/company – check as many as apply.

**Wind on the Wires is a regional policy and advocacy organization working to increase the development of wind energy in the Midwest. WOW members include turbine manufacturers and project developers, project owners and operators, businesses that supply goods and services to the wind industry, and clean energy advocacy organizations.**

2. Your Primary Area of Expertise – check only one.

Transmission	Generation	Power Trading	Policy	Other (Specify)
<b>XX</b>	<b>XX</b>		<b>XX</b>	

3. Primary state(s) of operation – Check Below

State	√ if Yes
Montana	
North Dakota	<b>X</b>
South Dakota	<b>X</b>
Minnesota	<b>X</b>
Iowa	<b>X</b>
Missouri	
Wisconsin	<b>X</b>

State	√ if Yes
Illinois	<b>X</b>
Michigan	<b>X</b>
Indiana	<b>X</b>
Ohio	<b>X</b>
Kentucky	
Pennsylvania	
Others (list)	

