

WIND ON THE WIRES: Responses to Questions posted to Michigan Energy Forum Website

9. What is the long-term potential for more wind, solar, hydro, biomass, landfill gas, and other renewables sources in other locations to which Michigan is tied electrically?

Michigan is tied into the MISO electricity market and grid. The long-term potential for renewables in the MISO region has been studied closely, on the regional level through the MISO planning studies and through state analysis.

MISO currently has approximately 12,270 MW of existing wind energy on the MISO system. (MISO, *MISO Informational Forum presentation* at 31 (March 26, 2013)). To fulfill the current renewable energy requirements of the MISO states will require approximately 29,000 to 31,000 MW of wind (assuming the entire requirement is met by wind). (MISO, presentation to Planning Advisory Committee, *MTEP13 EGEAS Update* at 3 (March 20, 2013); and *MISO-PJM Joint Planning Study* at 10 (March 20, 2013)).

The potential wind generation capacity in MISO states far exceeds that demand. NREL has estimated the amount of wind generating capacity per state assuming an 80m wind turbine (which is typically smaller than what is currently installed) and a 30% capacity factor and only accounting for “available windy land.” NRELs analysis indicates that the MISO states have potential wind generating capacity that is 145 to 172 times greater than what is needed to meet their current renewable portfolio standards. NRELs analysis yielded the following potential nameplate generating capacities per state:

State	Potential Generating Capacity (MW)
Michigan	59,042
Indiana	148,227
Ohio	54,919
Illinois	249,882
Wisconsin	103,571
Minnesota	489,270
Iowa	570,714
North Dakota	770,195
South Dakota	882,412
Missouri	274,355
Montana	944,004
TOTAL:	4,491,672

(NREL, *Estimates of Windy Land Area and Wind Energy Potential, by State, for areas >= 30% Capacity Factors at 80m* (April 13, 2011))

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