

**The Environmental/Other Sector Motions on MTEP11 Futures Scenarios
for Action at February 7, 2011 Meeting**

Attached are motions modifying the MTEP11 Futures Matrix spreadsheet prepared by the Midwest ISO for the February 7 2011 meeting of the PAC.

Motion #1. The PAC recommends that the “MISO Wind Penetration Mandate” in the “Matrix” tab be changed to mid-level for each Future Scenario.

Rationale: The Mid level should be the default value unless there are certain characteristics about the scenario that dictate the use of a Low or High level.

Motion #2. The PAC recommends that the alternative capital costs for “Wind-Onshore” in the “Uncertainty Variables” tab be amended so as to capture the drop in capital costs that occurred in 2010. The following low/mid/high values are recommended: \$1,695/ \$2,120/ \$2,544.

Rationale: The proposed capital cost for Wind-Onshore is incorrectly high and does not reflect current trends in wind turbine costs. Although wind power costs escalated from 2002 through 2008, that trend has reversed dramatically. Reduced prices for raw materials and other commodities, coupled with a glut of supply, have led to a sharp reduction in wind projects. A very real and significant increase in international competition will keep downward pressure on wind turbine prices in the longer term.

The DOE Wind Technologies Report 2009¹ (August, 2010) determined the capacity-weighted average installed capital cost for onshore wind built in 2009 was \$2120/kW² (and shows that Midwest costs are lower yet at approximately \$2,000/kW³). Since 2009, there has been a 14-17% decline in wind turbine costs. Competition from Asian manufacturing will provide further long term downward cost pressure. The AEO 2011 wind capital cost of \$2,438/kW is 15% above the average cost found in other recent studies.

While it is not certain how long current decreases in turbine prices will continue or precisely when foreign manufacturers will apply significant competitive pressures on the US market, it is clear that the 21% increase in the AEO2011 (relative to AEO2010) and the proposed 21% increase in the MTEP11 (relative to MTEP10) do not capture price changes that occurred in 2010 and are not consistent with near and long-term market trends.

The capacity weighted average installed cost of \$2120/kW in the current DOE Wind Technologies report should be used in place of the EIA Annual Energy Outlook for 2011 and as the mid-level value for Wind-Onshore. This provides a clear analytical basis for onshore wind capital costs and provides a middle ground between trying to anticipate future cost declines and relying wind capital cost assumptions that completely ignore current market trends.

¹ U.S. Department of Energy (by Lawrence Berkeley National Laboratory), *2009 Wind Technologies Market Report*, at 44 – 47 (August 2010)

http://www1.eere.energy.gov/windandhydro/pdfs/2009_wind_technologies_market_report.pdf

² *Id.* at 45 and Fig. 27.

³ *Id.* at 47 and Fig. 29.