

DATE: September 30, 2013

MEMORANDUM FOR: John Conti  
Assistant Administrator for Energy Analysis  
Office of Energy Analysis

Alan Beamon  
Office Director  
Office of Electricity, Coal, Nuclear, and Renewables Analysis

FROM: Renewable Electricity Analysis Team

SUBJECT: AEO 2014 Renewable Electricity Working Group Meeting Summary

ATTENDEES:

In person

John Conti  
Alan Beamon  
Bob Eynon  
Chris Namovicz  
Danielle Lowenthal-Savy  
Erin Boedecker  
Gwen Bredehoeft  
Jim Diefenderfer  
Marie Rinkoski Spangler  
Michael Leff  
Michele Simmons  
Michelle Bowman  
Owen Comstock  
Perry Lindstrom  
Peter Drown\* (DOE Water Power Program)  
Rich Tusing\* (DOE EERE)  
Shirley Neff  
Tyler Hodge

Phone

Becky Campbell \* (SEPA)  
Elyse Steiner\* (EPA)  
Frances Wood\* (On Location)  
Justin Baca\*(SEIA)  
Liz Salerno\* (AWEA)

\*Non-EIA Attendees

**Date:** September 26, 2013

**Presenters:** Chris Namovicz (methodology), Gwen Bredehoeft (results)

*Topics included the environmental regulatory assumptions that will be used in the AEO2014, enhancements that were made to the model, updates to the data, and preliminary model results. Data updates included revisions to existing and planned capacity based on new data from the Form EIA-860, PTC effective expiration dates, and inter-regional transmission transfer capability limits. Capital cost assumptions were reviewed and remain unchanged for AEO2014. The model enhancements discussion included the integration of Polysys with NEMS to create model-interactive supply curves for biomass, the spinning reserve requirement that accounts for operational impacts of maintaining operating reliability reserve, and RPS updates (small adjustments, no repeals). The presentation concluded with an announcement of changes in the AEO and IEO production cycles where full and reduced content reports will be produced in alternate years.*

Questions from participants:

- An external participant inquired whether EIA's low-cost renewables case incorporates only adjusted capital costs, or if capacity factors are also increased. EIA explained that low-cost renewables cases in recent years have not adjusted the capacity factors and only changed the capital costs. The same participant questioned if shifting the PTC expiration date from 2014 to 2015 was correct, stating that they are expecting the bulk of new installations to occur in 2014 if the lead time is 12 months. EIA clarified that the shift was from 2016 to 2015, and that the lead time assumed in NEMS three years. As a result, the bulk of the installations come online in 2015 in the preliminary AEO2014 runs.
- An external participant asked if EIA intends to stop grouping all renewables into one category in tables and charts, stating that some individual renewable energy sources actually exceed conventional sources. EIA responded that there is no current plan to change the representation of renewables in EIA publications across-the-board, but that the issue has come-up before and EIA is generally moving toward representing individual renewable resources when it makes sense in the context of a particular figure or table, and that the electric power data publications have near-term plans to show renewables individually. Until recently in many figures, individual renewable energy generation technologies would not show up without the grouping. But increasingly, individual renewable technologies make more sense to show as disaggregated from each other. However, grouping the renewables into one category can help to put things into context and to see the bigger picture of electricity generation.
- An external participant asked if regional differences in capital costs are accounted for in the cost of solar PV systems. EIA replied that the NEMS model uses standard regional adjustment factors based on factors such as regional labor costs, but that they are not PV-specific. One current limitation to a more regional approach is the relatively small number of data points for utility-scale PV at that level. EIA also noted that the capital cost assumptions for PV in the commercial and residential sectors also use national PV system cost estimates but regional electricity prices.
- A DOE participant asked how EIA projections model storage, specifically pumped hydro. EIA explained that the NEMS model includes existing energy storage capacity, but does not model new energy storage additions. However, the model includes representation of most of the key aspects of intermittency, including the recent addition of spinning reserves impact. Results suggest that the impacts at levels seen in the high wind-penetration cases are generally not severe enough to support significant new storage.
- Chris Namovicz informed everybody of his rotation at the Department of Transportation for six months, starting September 30.

- EIA noted that in the preliminary AEO2014 Reference case the most important thing to keep in mind is that gas prices in 2040 are around \$1/MMBtu lower than in the AEO2013 Reference case, decreasing the competitiveness of other sources including renewables, pushing their competitiveness out in time.
- An external participant asked how natural gas prices in the reference case differ from the prices in the side cases. EIA responded there is a fairly large spread in natural gas prices between the various NEMS cases, but that the exact side case assumptions have not yet been developed for AEO2014.