

WORKING GROUP PRESENTATION FOR DISCUSSION PURPOSES  
DO NOT QUOTE OR CITE AS RESULTS ARE SUBJECT TO CHANGE

October 16, 2014

MEMORANDUM FOR: JOHN CONTI  
ASSISTANT ADMINISTRATOR FOR ENERGY ANALYSIS

PAUL HOLTBERG  
TEAM LEADER  
ANALYSIS INTEGRATION TEAM

JAMES TURNURE  
DIRECTOR  
OFFICE OF ENERGY CONSUMPTION & EFFICIENCY  
ANALYSIS

LYNN WESTFALL  
DIRECTOR  
OFFICE OF ENERGY MARKETS & FINANCIAL ANALYSIS

FROM: MACROECONOMIC & INDUSTRIAL ENERGY  
CONSUMPTION & EFFICIENCY ANALYSIS TEAMS

SUBJECT: Second AEO2015 Macro-Industrial Working Group Meeting  
Summary, presented on 09-29-2014

Attendees:

Gary Ambach (Michaels Energy)  
David Gibson (Kaiser Associates)  
Robert Hershey, Consultant  
Keith Jamison (Energetics)  
Meegan Kelly (ACEEE)  
Tom Lorenz (EIA)  
Colin Mc Millan, NREL  
Anna Shipley, SRA  
Peri Ulrey (Natural Gas Supply Association)  
Frances Wood (On Location)

Presenters:

Kay Smith, Elizabeth Sendich (Macro)  
Kelly Perl, Mark Schipper, Peter Gross, Susan Hicks, Paul Otis  
(Industrial)

*Macro:* Because the macro team previously provided preliminary AEO2015 projections no formal presentation was given. Important model updates for AEO2015, such as trade expectations used to project industrial output and GDP were discussed.

The overall GDP growth in the AEO2015 is nearly unchanged since the last Working Group meeting, although there are differences comparing GDP components, with consumption, government and import growth nearly unchanged, and investment and export growth lower. Industrial output growth is slightly lower, down from 2.0% annual average growth rate in the first Working Group meeting to 1.8% in the current estimates.

1. *Industrial*: The industrial part of the working group presentation reviewed run results to include ethane and petrochemical feedstock changes and recently completed side cases as summarized below: Ethane and propane price: Results for the update of the Dynamic Linear Model (DLM) for joint ethane and propane pricing was presented. Flexibility of the regression parameters over time is a key component of DLM, and the ability of the new model to adapt to new historical information as it becomes available was also mentioned. Drivers include exports, chemical shipments, and total ethane supply. As a result liquid feedstock prices are lower with increased consumption.
2. Major side cases released with Reference case in late 2014:
  - a. High Oil Price case: Technology and policy are half as effective in reducing demand in non-OECD countries. OPEC restricts production, reducing market share, with higher production of tight oil and other liquid fuels as a result of technology development and increased development of previously uneconomic resources.
  - b. Low Oil Price case: Technology and policy are twice as effective in reducing demand in non-OECD countries. OPEC maintains market share with lower production of tight oil and other liquid fuels.
  - c. Economic growth is the same in Reference, High and Low Price Cases
  - d. High Resource case: Substantially higher Estimated Ultimate Recovery of tight oil, tight gas, and shale gas, more resources
3. The following changes in Reference case results relative to AEO2014 were highlighted:
  - a. There is higher natural gas consumption in AEO2015 because of more feedstock use. In particular increased domestic methanol and fertilizer production increases natural gas feedstock consumption.
  - b. Industrial purchased electricity is a bit less in AEO2015 because of lower relative Metal Based Durables shipments.
  - c. Industrial CHP is a bit less in AEO2015 because the long term growth in energy intensive industries is lower.

*Discussion/questions:*

1. The flattening out of industrial natural gas consumption in 2017 seems too early given the some 100 planned plants.

- a. Improvements in energy intensity over time are part of the model for Heat and Power, but not feedstocks. The projections for growth in all industries are consistent with IHS Global Insights projections and with anticipated plants coming on line.