

November 5, 2013

MEMORANDUM FOR: JOHN CONTI
ASSISTANT ADMINISTRATOR FOR ENERGY
ANALYSIS

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FROM: LIQUID FUELS MARKET TEAM

SUBJECT: Second AEO2014 Liquid Fuels Markets Working Group Meeting
Summary (presented on 09-19-2013)

Attendees: (EIA) John Powell, Mindi Farber-DeAnda, Mike Cole, Beth May,
Adrian Geagla, Vishakh Mantri, Tony Radich, Irene Olson,
Julie Harris, Arup Mallik, Mike Bredehoeft

Seth Meyer (USDA)
Bryan Just (API)
Adam Christensen (Johns Hopkins University)
Tom White (DOE)
Andy Kydes (contractor)

Attending by Phone: Michael Schaal (EIA)
Dave Schmalzer (Argonne National Laboratory)
Wyatt Thompson (FAPRI, University of Missouri)
Jarrett Whistance (FAPRI, University of Missouri)
Emily Newes (NREL)
Kirsten King (CARB)
Jennifer LI (DOE)

Presenters: John Powell (EIA)
Mindi Farber-DeAnda (EIA)

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DO NOT QUOTE OR CITE AS RESULTS ARE SUBJECT TO CHANGE**

The liquid fuels markets presentation provided a discussion of the progress on projects and preliminary results for AEO2014. An overview of the projects discussed is included in the presentation materials provided as a separate attachment.

Specific discussion/questions, presented by slide topics:

Crude and product distribution system (slide 4)

- LFMM now has a crude and product distribution system. In the past, the crude was sent directly to the refining regions where it was processed.

U.S. refined product exports and imports (slide 6)

- Q: How are product exports determined?
A: Product supply and demand curves are defined by the International Energy Module. The curves are dynamic across years and World Oil Price cases, but not within a model year. LFMM has one export region – the rest of the world. An attendee stated that they have tried to model a ‘Rest of the World’ petroleum market, has had trouble, and would like to exchange ideas when EIA implements more than one export region.

Crude export capability (slide 7)

- Crude exports are endogenously represented in the AEO2014, and currently go mostly to Canada at a low level. Exports are represented as supply curves, but will not be fully exercised except in a side case or if U.S. policy on crude exports changes. This capability does not account for changes in economics due to geopolitics.

Biofuel and xTLs (slide 8)

- Biobutanol is permitted by the model at any time, but (at the time of this presentation) did not appear until after 2035 due to economic conditions. The model assumes a 16% by volume mix of biobutanol and gasoline blend stock. Biobutanol contributes toward meeting the “total” RFS mandate with a 1.3 ethanol equivalent multiplier.

Biofuel assumptions for AEO2014 (slide 9)

- The assumption for E15 penetration may change.
- The California LCFS draws low carbon intensity biofuels to California – corn ethanol, biodiesel, Brazilian sugarcane ethanol, etc. This tends to move biofuels into California, rather than increase the overall production of biofuels. It also affects prices in California. The LFMM represents an LCFS buyout price.
- In practice ethanol producers are blending ethanol with natural gasoline and not conventional blend stock for oxygenate blending (CBOB). This is not captured by the current model or possibly EIA statistics.
- RINs are not banked in the model. 2014 RINs are drawn down to zero. RIN values are endogenous to the model.

- In practice E15 is 10psi RVP, but LFMM does not include seasonal adjustments to the gasoline pool.
- Q- What are the blend wall impacts on E85?
A- At this point in time, the EPA does not have specific RFS information available beyond 2013. Therefore, EIA is using a lower total RFS mandate which corresponds to the blend wall level. As a result, currently there are minimal impacts on E85 growth.

AEO2014 emerging technology parameters (slide 10)

- Biobutanol is represented in the LFMM, and will be added to the parameters table that will be presented in our assumptions document. EIA would like to know what others assume about the technology parameters of biobutanol.

Motor gasoline and diesel demand in the transportation sector (slide 14)

- Motor gasoline demand is down due to lower VMT (vehicle miles traveled).

Motor gasoline and diesel prices in the transportation sector (slide 15)

- Higher diesel prices are due to lower gasoline production. Gasoline production drops, making the marginal barrel of diesel harder to produce.

Projected E85 and motor gasoline prices for AEO2014 (slide 18)

- E85 demand is limited by flex fuel vehicle availability and fleet size, as provided by the transportation demand module.

Other questions and comments:

- The model results show very small cellulosic market penetration
- Q- If cellulosic penetration is low, what is the impact on ethanol imports?
A- Ethanol can be imported if economic. 0.5 -1.5 billion gallons per year.
- Q –What is the implied domestic ethanol consumption?
A- 10 billion gallons per year
- Biodiesel is included in Northeast heating oil mandates

Actions to be taken in response to the discussion above:

- A meeting was set up with CARB to discuss LCFS representation in LFMM and compliance costs.
- Once EIA has the opportunity to design and implement liquid fuels exports to more than one export region, EIA will set up a meeting with the interested party (FAPRI) to discuss aspects of the design.
- EIA will respond to email inquiries from attendees as time and priorities permit.

Next LFMM Working Group meeting: Summer of 2014 (tentative)