



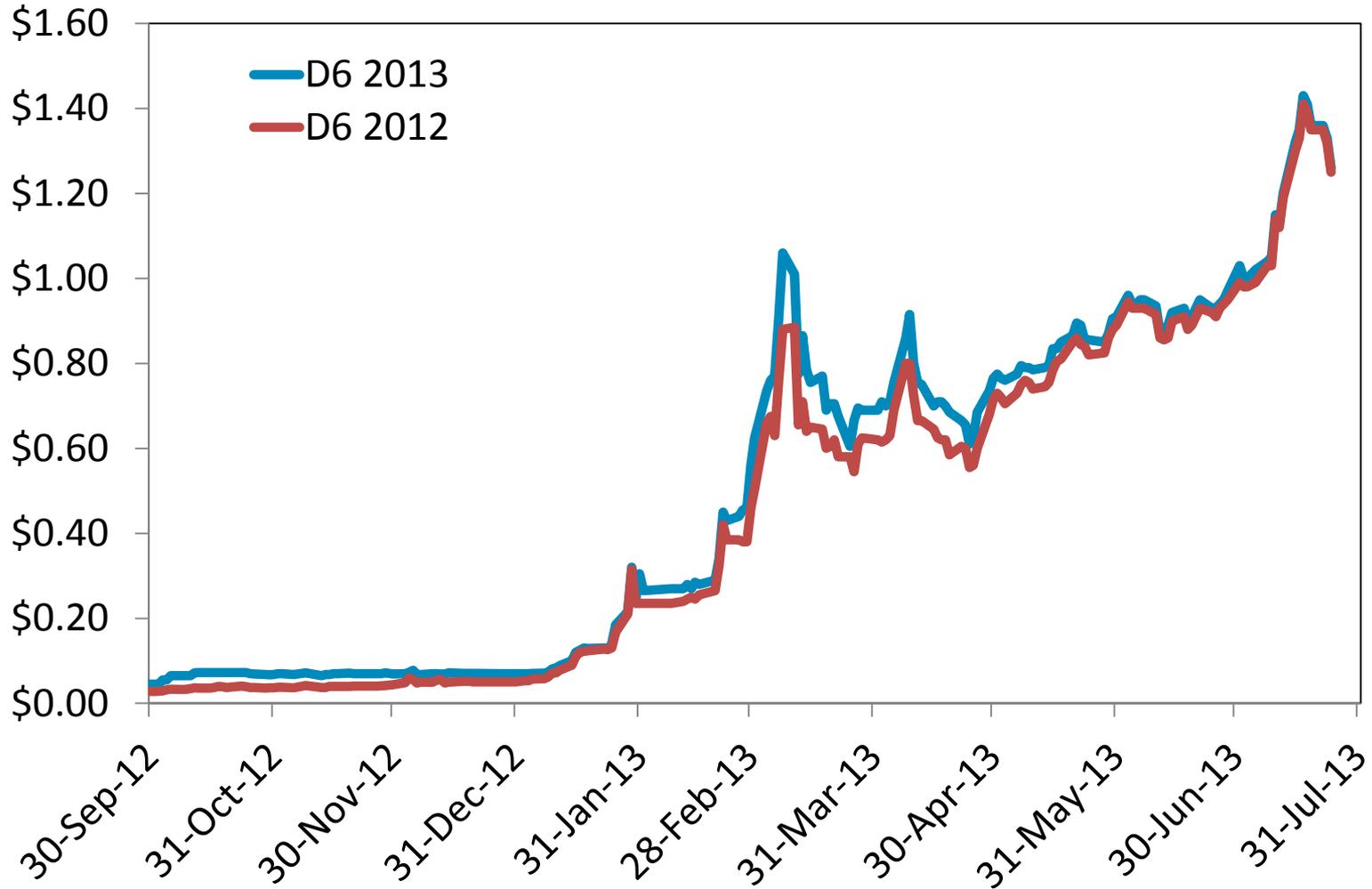
Agricultural Advisory Committee Meeting

Office of the Chief Economist

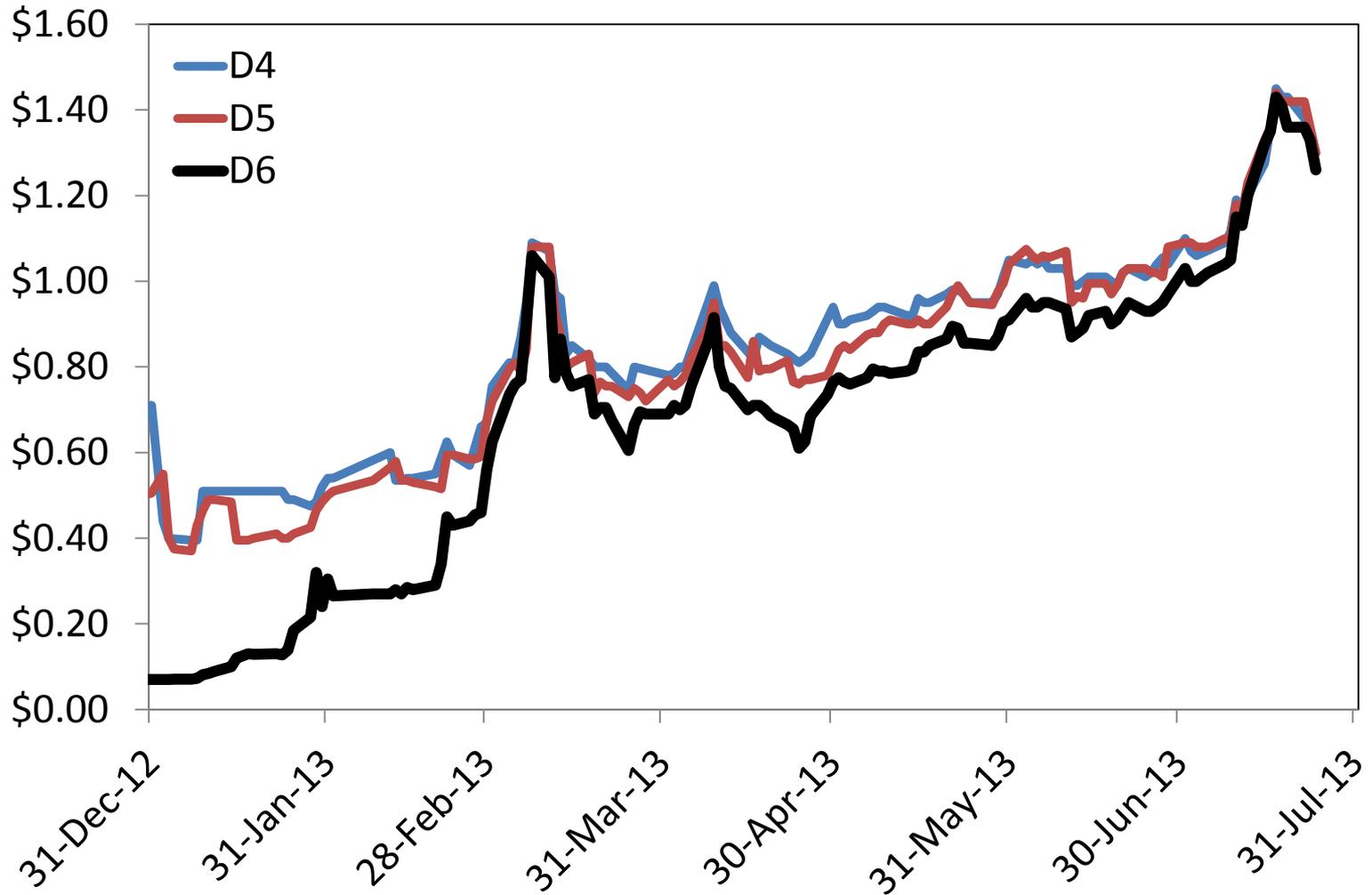
July 25, 2013

Panel II: Ethanol / RINs

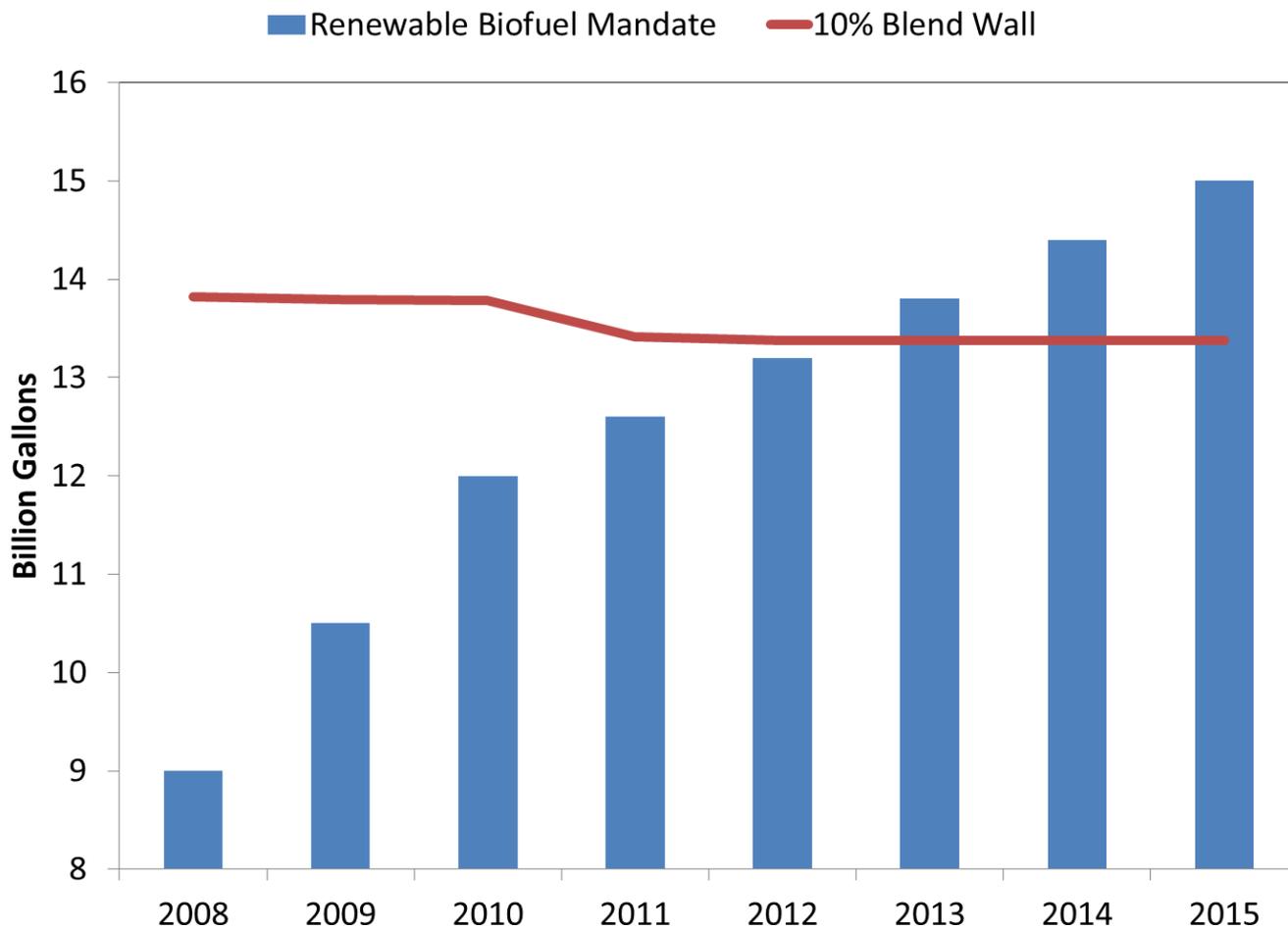
D6 Ethanol RIN prices spiked in early 2013, surprising many observers



D6 Ethanol RIN prices converged toward D4 biodiesel and D5 advanced biofuel RIN prices



Analysts: Mandated blending exceeds market capacity, given status quo



Data Source: CFTC calculations, EIA, EPA

Analysts: A Fundamentals-Based Explanation for Higher Prices in 2013

- **Analysts: Amount of ethanol required by EPA mandate to be blended exceeds industry capacity to blend (given status quo technology, infrastructure, and market practice)**
- **Analysts have suggested that the difference will be made up by buying RINs to satisfy the mandate**
- **Their theory is that the stock of D6 RINs will be depleted sometime in 2014**
 - **“The Impending Collision of Biofuels Mandates with Market Reality”:** U of Illinois FarmdocDaily, 26 Sep 2012
 - **“A Question Worth Billions: Why Isn’t the Conventional RIN Price Higher?”:** U of Missouri Food and Agricultural Policy Research Institute report, Dec 2012
 - **“The Ethanol Blend Wall, Biodiesel Production Capacity, and the RFS ... Something Has to Give”,** U of Illinois FarmdocDaily, 13 Feb 2013
 - **“Outlook for Ethanol and Conventional Biofuel RINs in 2013 and 2014,”** Iowa State Center for Agricultural and Rural Development, December 2012 [puts upper bound of D6 RINs at \$1.20 in 2013]

Color/claims from Market Participants

- 2007-2010: Excel spreadsheet-based market
- 2010-Present: Transactions booked into EPA Moderated Transaction System (EMTS)
 - EMTS is not a central limit order book
 - Trade confirmation/back office accounting system
 - Participants can see their own inventory of RINs and RINs transactions, but not anyone else's
 - Post-trade transparency to the EPA:
 - Most transactions (generate, separate, sell, retire) reported within 5 business days to EMTS [40 CFR 80.1452]
 - Quarterly reports to EPA due end of 2nd month after quarter-end

Color/claims from Market Participants

- **Broker-driven market (Perhaps 20-25 brokers)**
- **Estimated trading activity in the market**
 - **Slow day: 5-10 million RINs**
 - **Active day: 100 million RINs**
 - **Estimated RINs to trade at end of 2012: 2.6 billion**
- **Estimated trading costs**
 - **2012: D6 RIN market ~ 5.0 / 5.2 cents (3-4% wide)**
 - **2013: D6 RIN market ~ 70 / 72 cents (3-4% wide)**
 - **2013: D6 RIN market ~ \$1.20 / \$1.22 (1.5-2% wide)**

Color/claims from Market Participants

- **Fraud in Biodiesel RIN market**
 - Trades for 2010 and 2011 D5 RINs booked into EMTS
 - RINs issued by EPA, but not valid: no biofuel existed (140 million RINs) – criminal violation of the EPA
 - Purchasers had to buy new RINs to comply with mandate
 - Liquidity dried up for smaller plants (Counterparty credit risk)
 - Third parties to validate RINs for smaller, lesser known plants (QAP RINs, Feb 2013 Proposed Rule)
 - Some financial institutions have entered the market but have had difficulties establishing relationships: high barriers to entry due to counterparty credit risk issues