

2016 Report on Ethanol Market Concentration

I. Introduction

This Report presents the Federal Trade Commission's

billion gallons of which can be conventional corn ethanol.⁹ The 2016 advanced biofuels target is 7.25 billion gallons, at least 4.25 billion gallons of which must be cellulosic biofuel.¹⁰

The annual use of renewable fuels has not kept pace with the Congressional RFS.¹¹ The EPA published revised volume requirements for 2016¹² and has proposed revisions for upcoming years to address constraints caused by the E10 “blendwall” and limitations on production and import capabilities.¹³ For 2016, the EPA’s total renewable fuels requirement is 18.11 billion gallons, 14.5 billion gallons of which can be conventional corn ethanol.¹⁴ The 2016 volumes require significant increases in the use of renewable fuels compared to renewable fuel use in 2015.¹⁵

⁹ *Id.* § 7545(o)(2)(B)(i)(I)-(II).

¹⁰ *Id.* § 7545(o)(2)(B)(i)(II)-(III).

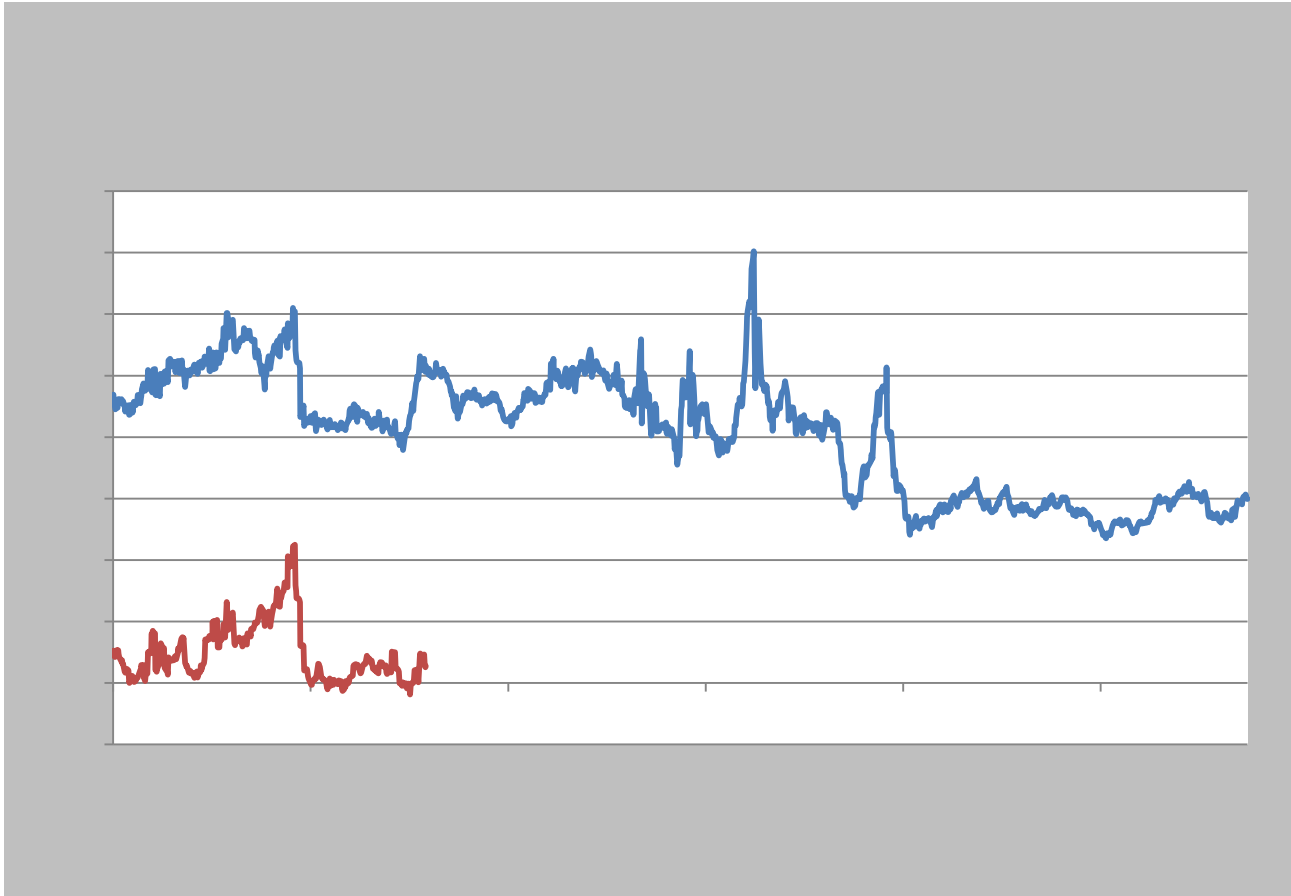
¹¹ In 2015, the U.S. consumed 13.94 billion gallons of ethanol, more than one billion gallons less than the 2015 RFS target. U.S. Energy Info. Admin., Monthly Energy Review, February 2016, at 12.8.1 (Table 2.1.9a) (13.94 billion gallons consumed in 2015, 14.9 billion gallons target). U.S. Energy Info. Admin., Monthly Energy Review, February 2016, at 3.8 (r) (10 billion gallons target for 2015).

B. Margins

U.S. ethanol industry margins through the first nine months of 2016 followed a seasonality pattern similar to that seen in 2015.¹⁶ Margins were negative or low in January of 2016 but increased and remained positive as demand surged during the spring and summer driving season.¹⁷ The average margin for the first nine months of 2016 was \$0.20 per gallon.¹⁸ Over this period, the average net cost of corn – the largest ethanol input cost – was \$0.82 per gallon.¹⁹ Ethanol prices fluctuated slightly throughout the year but remained close to 2015 prices, with an average price of \$1.40 per gallon.²⁰

Figure 1 shows net corn prices, ethanol prices, and return over operating costs for the period January 2011 through September 2016.

¹⁶ See *Ethanol Margins Return to Seasonal Swings*, ETHANOL PRODUCER



Source: Iowa State University, Center for Agricultural and Rural Development

C. Market Trends

Domestic ethanol capacity and production increased since last year’s Report, while exports remained stable. Domestic ethanol production from July 2015 through June 2016 increased approximately three percent from the prior 12 months, from 14.6 billion to 15 billion gallons.²¹ Domestic ethanol production capacity (including capacity under construction) rose to approximately 15.8 billion gallons per year.²² This marks the third consecutive year of capacity

²¹ U.S. Energy Info. Admin., U.S. Oxygenate Plant Production of Fuel Ethanol, http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=pet&s=m_epooxe_yop_nus_1&f=m (last visited Oct. 24, 2016).

²² Staff’s total capacity estimate takes into account information obtained through interviews with market participants and publicly available information, including information published online by the Renewable Fuels Association (“RFA”). See, e.g., RFA, Biorefinery Locations, <http://www.ethanolrfa.org/resources/biorefinery-locations/> (last

that includes other gasoline blending components that might be economically viable and environmentally acceptable substitutes for ethanol. In the event that ethanol competes with other blending components, HHIs based on a fuel ethanol market would understate the amount of competition in the industry. This assumption also precludes consideration of a broader or narrower relevant geographic market than the United States that could provide further insight about competition in ethanol production and marketing.

This Report presents four HHIs for the ethanol industry, calculated using two different measures of market share – production capacity and actual production – and two different methods of allocating those market shares. First, staff calculated market shares based on domestic ethanol production capacity. Staff then attributed the producer’s market share to (1) the producer itself, and (2) the producer or the third-party firm that actually marketed the producer’s ethanol output. Staff relied on publicly available information and interviews with producers, marketers, and other industry participants to determine the production capacity of each ethanol plant and to calculate the market shares based on marketing arrangements.

Second, EIA staff calculated market shares based on actual production, attributing the market shares as described in the preceding paragraph. Due to the confidential nature of the ethanol production data the EIA collects, staff provided to EIA staff the information necessary to

could profitably impose at least a small but significant and nontransitory increase in price (“SSNIP”). If such a price increase would not be profitable because of the loss of sales to other products, the product or group of products would not be a relevant product market. Similarly, a relevant geographic market is a region such that a hypothetical profit-maximizing firm that was the only seller of the relevant product in that region likely could impose at least a SSNIP above the competitive level. If such a price increase would not be profitable because of the loss of sales to sellers outside the region, the region would be too narrow to be a relevant geographic market. *See id.* §§ 4.1-4.2.

allocate market shares.²⁹ EIA staff performed each of the two HHI calculations and provided the resulting production-based HHIs.³⁰

A. Concentration with Market Shares Based on Production Capacity

For each of the HHI calculations described below, staff first calculated producers' market shares based on their fuel ethanol production capacity.³¹ Production capacity provides a useful and easily confirmable indicator of a producer's competitive significance.³² In determining each producer's aggregate capacity, staff included the capacity of existing plants, as well as the projected capacity of plants currently under construction and plants currently undergoing expansion.³³

calculation yielded an HHI of 482, a level regarded as unconcentrated under the Horizontal Merger Guidelines.³⁵ This HHI is a slight increase from the revised 2015 HHI of 449.³⁶

2. Attributing Market Shares to Marketers

Many producers enter into marketing agreements with third parties to market their ethanol to blenders and end users, while other producers sell their output directly. An ethanol marketer may represent and make limited decisions for multiple individual producers, essentially aggregating these producers' capacities under a single entity. For purposes of competitive analysis, attributing production capacity to marketers rather than to the actual producers provides a measure of industry concentration that captures this aggregation. For those producers that engage in direct sales, staff attributed the market shares to the producers themselves.³⁷

This approach yields an HHI of 737, unconcentrated under the Horizontal Merger Guidelines. This HHI is higher than the corresponding HHI of 621 in 2015.³⁸

B. Concentration with Market Shares Based on Actual Production

Firms that produce more than eight million gallons of oxygenates (such as ethanol) per year must report to EIA their monthly production volumes by product. Using production data is instructive because capacity data have certain limitations, particularly insofar as stated capacity does not necessarily represent actual production capabilities. Ethanol plants often can produce as

³⁵ The Commission and the U.S. Department of Justice characterize markets in which the HHI is below 1500 as unconcentrated. HHIs between 1500 and 2500 indicate moderately concentrated markets, which may or may not raise competitive concerns in the context of a horizontal merger or acquisition. Markets with HHIs over 2500 are highly concentrated, and horizontal mergers or acquisitions in such markets are more likely to pose competitive concerns. *See id.* § 5.3.

³⁶ *See* Figure 2. Some of the change to the HHI may be attributable to a producer's acquisition of another producer's facilities. In several instances, these acquisitions coincided with the restart or reconstruction of an idled facility. Some of the change to the HHI may also be attributable to excluding plants that were converted to other uses, formally closed, or judged unlikely to reopen in the near future.

³⁷ Some marketers publicly announce new agreements with producers. Where staff could not determine whether a producer marketed for itself or used an outside marketing firm, staff attributed market share to the producer.

³⁸ 2015 Ethanol Report, *supra* note 1, at 10.

