See FTC, Oil and Gas Industry Initiatives, Competition Policy: Reports, https://www.ftc.gov/tips-advice/competition-guidance/industry-guidance/oil-and-gas.

[2] Energy Policy Act of 2005, Pub. L. No. 109-58, § 1501, 119 Stat. 1069, 1074, *amended by* Energy Independence and Security Act of 2007, Pub. L. No. 110-140, 121 Stat. 1492. For purposes of this Report, we presume that Congress used the term "price-setting" to mean "illegal price fixing."

[3] *Id*.

[4] *Id*.

The annual use of renewable fuels did not keep pace with the statutory RFS requirements,

B. Margins

Reported average margins in the U.S. ethanol industry through the first eight months of 2017 followed a seasonal pattern similar to that seen in 2016.[15] Margins were low, and occasionally negative, in January of 2017 but increased and remained positive as demand surged during the spring and summer driving season.[16] The average margin for the first eight months of 2017 was $0.23 per gallon.[17] Over this period, the average net cost of corn – the largest ethanol input cost – was $0.81 per gallon.[18] Ethanol prices have fluctuated slightly throughout the first eight months of 2017, with an average price of $1.45 per gallon.[19]

Figure 1 shows net corn prices, ethanol prices, and return over operating costs for the period January 2012 through September 2017. SepDfactCID .y 0.01 Tw [(r)3(ee.hed.aua)4(r)-17(y)20(201)]TJ

C. Market Trends

Domestic ethanol capacity and production increased since last year's Report. Domestic ethanol production from June 2016 through May 2017 increased approximately four percent from the prior 12 months, from 15.0 billion to 15.6 billion gallons.[20] Domestic ethanol production capacity (including capacity under construction) rose to approximately 16.6 billion gallons per year.[21] This marks the fourth consecutive year of capacity increases.[22]

[20] U.S. Energy Info. [illegible]

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Ethanol exports have also increased. From July 2016 through June 2017, the U.S. exported 1.3 billion gallons of ethanol, a 40 percent increase from the same period during the prior year.[23] This marked the fourth consecutive year of increased ethanol exports.[24]

Over 100 firms produce or are capable of producing ethanol. The largest ethanol producer's share of domestic capacity is approximately 11 percent, unchanged from its 2016 share.[25]

III. Analysis

Section 1501(a)(2) of the Energy Policy Act of 2005 instructs the Commission to use HHIs to measure concentration in the U.S. ethanol production industry.[26] HHIs can provide a snapshot of market concentration based upon the number of market participants and their respective sales, production, or capacity.[27] An analysis of competition among market participants using these HHIge .

allocate market shares.[29] EIA staff separately allocated shares by producer and by marketer to calculate 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, the-5.5 [(pr)3(oducc)8(e)2TJ 0 (g

in operating their plants.[39] In this respect, actual production may reflect a market participant's competitive significance more accurately than would its plants' capacities.

There are some limitations on the accuracy of HHIs based on actual production, just as there are limitations on capacity-based HHIs. HHIs based on production over a given period may overstate or understate actual concentration due to entry and exit of firms, expansion of existing capacity, and variations in capacity utilization rates during the relevant period. Specifically, the production-based HHIs provided below do not fully reflect the deconcentrating impact of new facilities that began production during the last 12 months, nor do they fully reflect the concentrating impact of plant closures and idling during the period. In both cases, these facilities produced only a fraction of what they otherwise could produce in a full year, leading to an understatement (in the case of new facilities) or an overstatement (in the case of idled facilities) of their competitive significance in the market. Similarly, the HHIs below do not account for the effects on concentration of plant expansions within the last 12 months and capacity-enhancing improvement projects that are not yet in operation.

These production-based HHIs reflect actual production volumes from July 2016 through June 2017. Where EIA attributed the actual production market share directly to individual producers, the resulting HHI is 475, slightly greater than the 2016 HHI of 463.[40] The production-based HHI calculated by attributing the market share of each producer to the firm that markets for that producer results in an HHI of 719, slightly lower than the 2016 HHI of 739.[41]

[39] Similarly, some ethanol producers may not be in a position to utilize their full plant capacity. Actual production may be a better indicator of their competitive significance in such cases.
[40] 2016 Ethanol Report, *supra* note 1, at 10
[41] *Id.* at 11.

C. Entry and Imports

The U.S.

imports provide additional constraints on the exercise of market power by current industry participants. The low level of concentration and large number of market participants in the U.S. ethanol production industry continue to suggest that the exercise of market power to set prices, or coordination on price and output levels, is unlikely.

Figure 2: Domestic Fuel Ethanol Concentration