WELLS FARGO

Industry Update — May 23, 2022

Independent Refiners **Integrated Oil & Gas**

Independent Refiners: Here Comes the RVO

Mild Rather than Bold the Most Likely Outcome

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Our Call

We hold modest expectations the EPA's expected June 3, RVO announcement will impact the Independent Refining sector beyond the recent modest reduction in RINs prices. This reduction is related to the EPA suggesting more time to procure RINs to meet SRE-related obligations following the revocation of previously granted and petitioned SREs. Importantly, we conclude a material, but unlikely, change in the RVO could reduce costs and trim retail gasoline by at least $0.10/gal., There are three examples of bold, but unlikely steps, in our view: first, include shifting RVO targets away from gasoline/ ethanol to other biofuels (i.e., reduce pressure on D6 RINs by lowering RVO); second, offering SREs to eligible units (as opposed to blanket across the board denials); and third, a significant alteration of the RFS.

Stock-Moving Event Possible, but not Likely. If the EPA materially altered the RVO and D6 RINs market, an immediate decline in D6 RINs and retail gasoline prices would likely occur, in our view. We expect Independent refiners would react positively to such an announcement. Companies like PBF with deferred RINs settlements would likely benefit the most. DINO, PSX and VLO would also be beneficiaries. Consumers would be the big winners, in our view, as they bear the majority of ethanol and D6 RINs costs.

E10 Plus the RIN Costs US Drivers. Adjusting ethanol for its materially lower energy content (67% of conventional gasoline), but a lesser price/cost discount means US drivers almost always pay more for less energy/mileage with E10 blends. By our analysis, YTD in 2022 US drivers paid an extra $0.074/gal for E10 blends vs 100% conventional gasoline. This consumer penalty is consistent with the estimated average cost since 2017 of $0.08/ gal. The cost of the RIN further penalizes US consumers with the average net adjusted effect of $0.07/gal since 2017. Combined, ethanol blending (i.e., lower energy content) and RINs have cost US drivers $0.15/gal since 2017. In 2022, we estimate costs are one-third higher at $0.20/gal.

Pump Prices Cheaper When RINs Suppressed. Ignoring the energy content adjustments, we did find that E10 blends delivered a retail price benefit to consumers of less than $0.01/gal in 2018 and 2019 - a period of low corn prices/ethanol and very low RINs costs.

What's Expected on June 3. The EPA is set to finalize biofuel-blending quotas for 2022 and 2021 -- and retroactively revise 2020 requirements -- by June 3.

The 2023 RVO Gets More Interesting. Beginning in 2023 per the RFS legislation, specific congressional RVO mandates cease to exist. The EPA will be responsible for setting the specific RVO for each category of renewable fuels. Given increased uncertainties about specific volume goals, the EPA targets a 2023 RVO release date of September 16, 2022. Hopefully this earlier release date will provide renewable fuel producers, conventional fuel refiners and blenders with substantially improved clarity relative to the most recent years.

Risks. The RFS enjoys broad bipartisan support throughout the farm-belt. Alterations to the current structure of the RFS, and specifically to ethanol blending and RINs, could be anti-inflationary, but politically challenging, in our opinion. If the EPA/Biden administration chose to adjust the RFS, it could be coordinated with other changes/fuel specifications that might undermine fuel cracks, in our view.

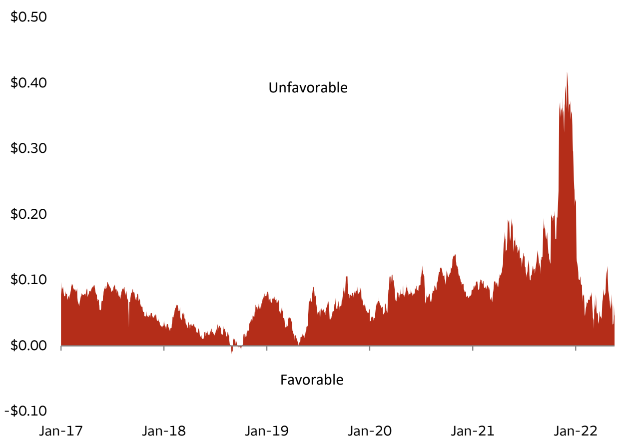
Nearly a year ago in recognition of rising retail gasoline prices and the apolitical and anti-inflationary preferences for lower retail gasoline prices of any presidential administration since at least the early 1970s, we discussed the possibility for the Biden EPA to make a bold move and eliminate the D6 RIN. Please see our note, Independent Refiners: Eliminate Ethanol RINs, an Idea Whose Time Has Come Among the Most Expensive GHG Reduction Plans Ever Designed, June 13, 2021.

We recognize there are many who will declare that ethanol has lowered retail gasoline prices. Others will state their belief RINs costs are only borne by the refiners. Both can be true but also miss the point in our view. Yes, retail prices are lower by 1c/gal since 2017. Some relatively disadvantaged refiners (here's looking at PBF) bear more than their share of the RINs costs.

What is also clear, is on an adjusted energy content basis, consumers do pay more to get less with the RFS and its accompanying ethanol mandate. It is also clear that consumers bear the brunt of the cost of RINs. If not in the immediate and daily way, they are now following the shutdown and/or conversion of up to1.6mmbpd of US refining capacity by year-end 2023.

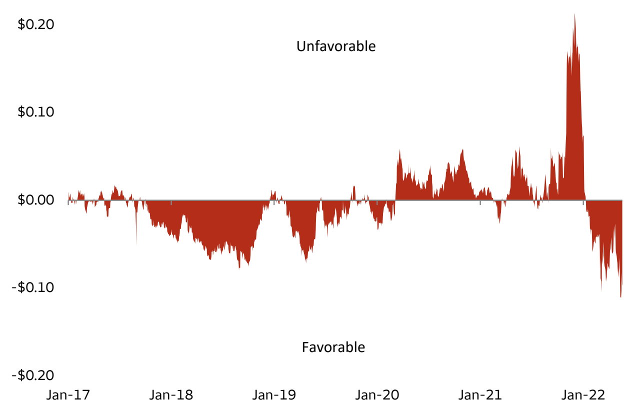
When energy content is ignored and RINs cost are excluded, ethanol appears equally likely to lower or raise retail gasoline prices as illustrated in Exhibit 2. When the substantially lower energy content of ethanol is taken into account (Exhibit 1), US gasoline consumers incur a consistent net cost, occasionally a substantial net cost, to utilize ethanol. Not since a short-lived period in early Q4 2018 has E10 delivered net cost benefits to US consumers on an energy adjusted basis and inclusive or RINs costs.

Exhibit 1 - Ethanol/Gasoline Spread ($/Gallon) Adjusted for Lower Energy Content



Source: DOE and Wells Fargo Securities, LLC

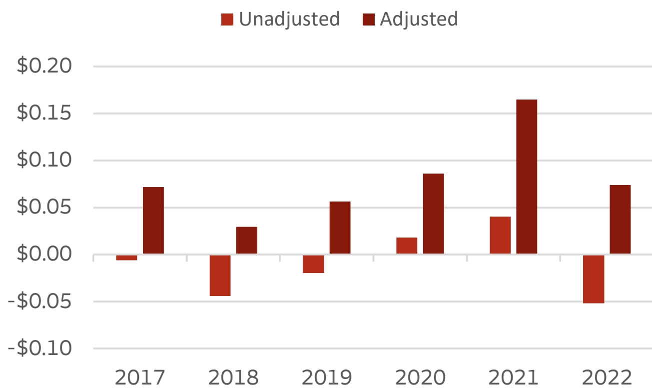
Exhibit 2 - Ethanol/Gasoline Spread ($/Gallon) Unadjusted for Lower Energy Content



Source: DOE and Wells Fargo Securities, LLC

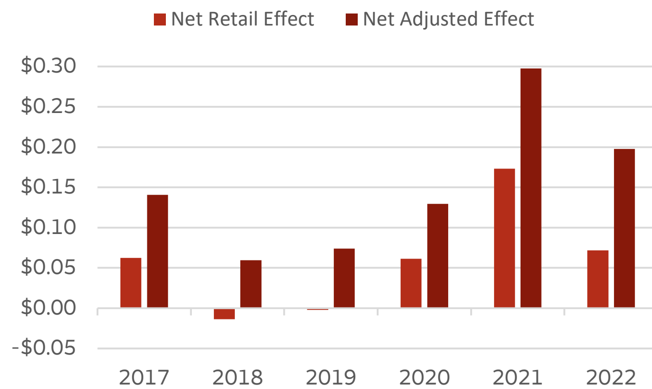
Exhibit 3 clearly illustrates how the annual averages for energy-adjusted E10 comes at a net cash cost to US gasoline consumers. The average since the beginning of 2017 is $0.08/gal. On an unadjusted basis, E10 has delivered a slight net benefit to US gasoline consumers of $0.011/gal. In Exhibit 4, we added the cost of the RIN to the retail final retail price paid by US consumers. As a core component of the RFS, we believe the RIN should be included as part of E10 gasoline. Exhibit 5 illustrates the per gallon cost of the RIN (i.e., the annual average RIN price adjusted for its 1/10 allocation per gallon of retail gasoline sold).

Exhibit 3 - Adjusted vs. Unadjusted Ethanol Costs ($/Gallon)



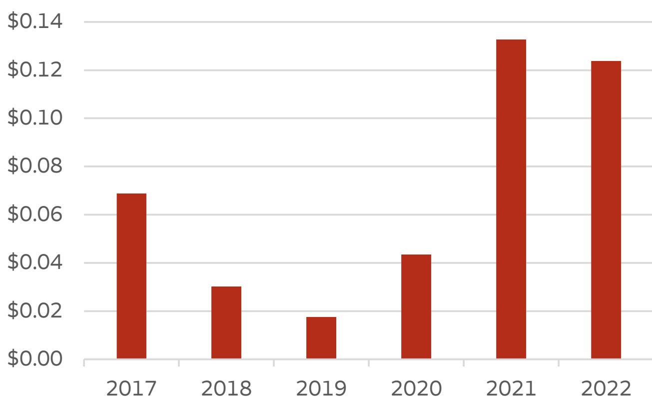
Source: DOE and Wells Fargo Securities, LLC

Exhibit 4 - Net Adjusted vs. Net Retail Ethanol Effect ($/Gallon)



Source: DOE and Wells Fargo Securities, LLC

Exhibit 5 - RIN Benefit ($/Gallon)



Source: DOE and Wells Fargo Securities, LLC

2023 Could Be Interesting

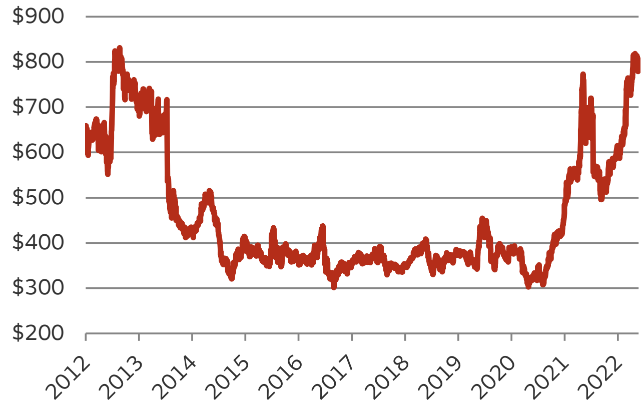
If record high RINs prices in 2021 were surprising, just wait until 2023 when two separate shoes drop. First at year-end 2022, the original RFS volume mandates terminate with decisions on future volumes of renewable fuels up to the discretion of the EPA. Second, the blenders tax credit (BTC) for renewable diesel (a $1/gallon tax credit) is set to expire at year-end 2022. The consensus view is the elimination of the BTC will result in reduced bio/renewable diesel profitability, especially for the most marginal suppliers. Thus, biodiesel D4 RINs prices will rise to compensate for the diminished profitability.

Based on the policy desires to support renewable fuels and tangible signs of support within congress to extend the BTC, a 2022 expiration may not occur. However, in prior periods, the tax credit has expired first then reinstated at a subsequent date.

Corn Production Growth Not Driven By Ethanol for a Decade

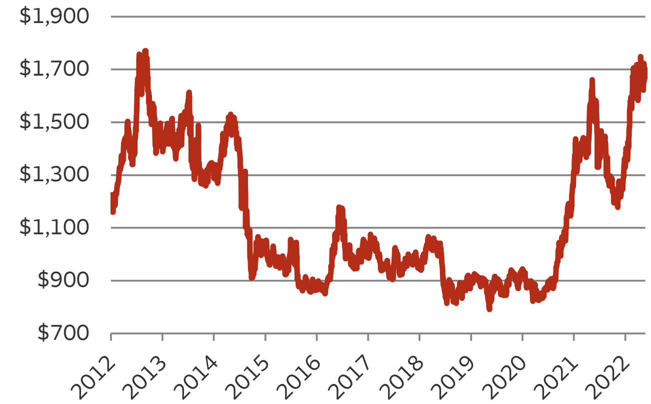
A host of factors unrelated to biofuels affect corn, soy, soybean oil and palm oil prices. Food demand, weather, warfare, tariffs, inventories and trade restrictions to name a few. Record and near-record highs for these critical foodstuffs could bring pressure to back away from "food to fuel" goals in our view. If not in the US, it seems more likely in regions of the world where food consumes a larger portion of consumers' budget and/or the country has a net dependency on imported food.

Exhibit 6 - Corn Price 2012 - Present ($ per 5k bushels)



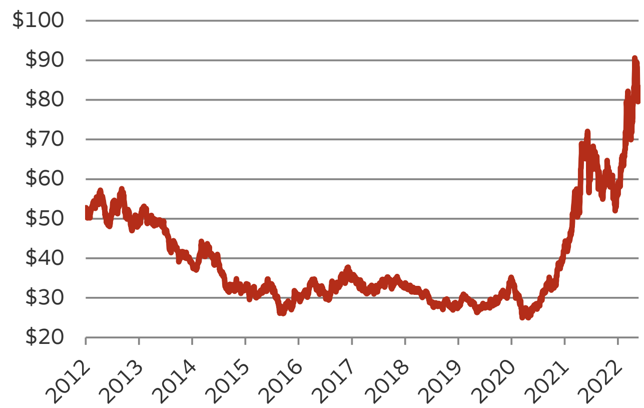
Source: Bloomberg and Wells Fargo Securities, LLC

Exhibit 7 - Soybean Price 2012 - Present ($ per 5k bushels)



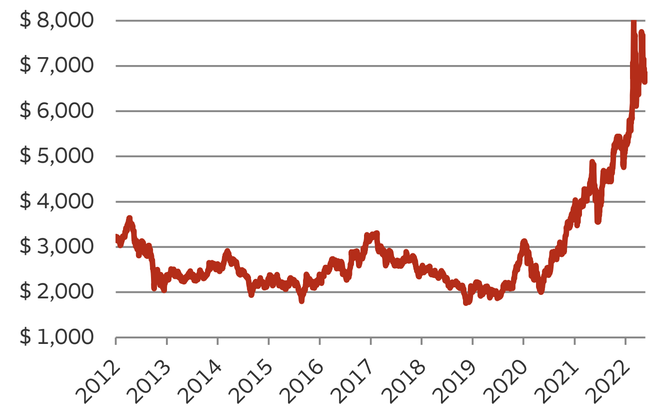
Source: Bloomberg and Wells Fargo Securities, LLC estimates

Exhibit 8 - Soybean Oil Price 2012 - Present ($ per 60k lbs)



Source: Bloomberg and Wells Fargo Securities, LLC estimates

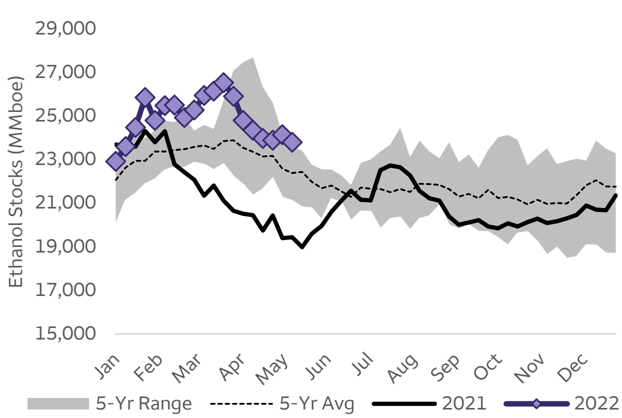
Exhibit 9 - Palm Oil Price 2012 - Present ($MYR per 25MT)



Source: Bloomberg and Wells Fargo Securities, LLC estimates

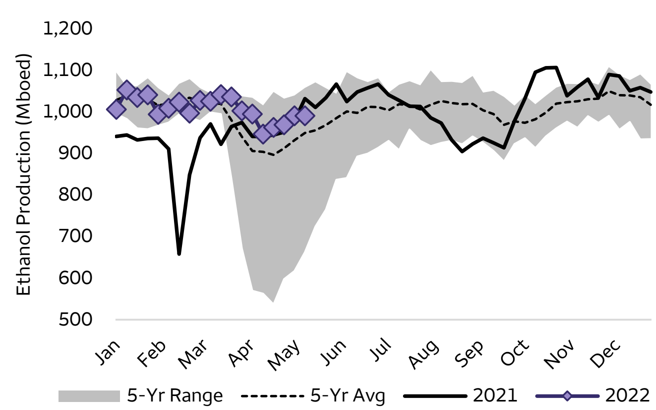
U.S. ethanol production has recovered along with gasoline production/demand in the post-COVID world. Ethanol inventories are elevated relative to normal and compared to current production levels. Above average inventories is consistent with relatively poor ethanol margins YTD. RINs ensure blending of ethanol with gasoline, but do not ensure profitability of ethanol producers.

Exhibit 10 - US Ethanol Stocks



Source: DOE and Wells Fargo Securities, LLC

Exhibit 11 - US Ethanol Production



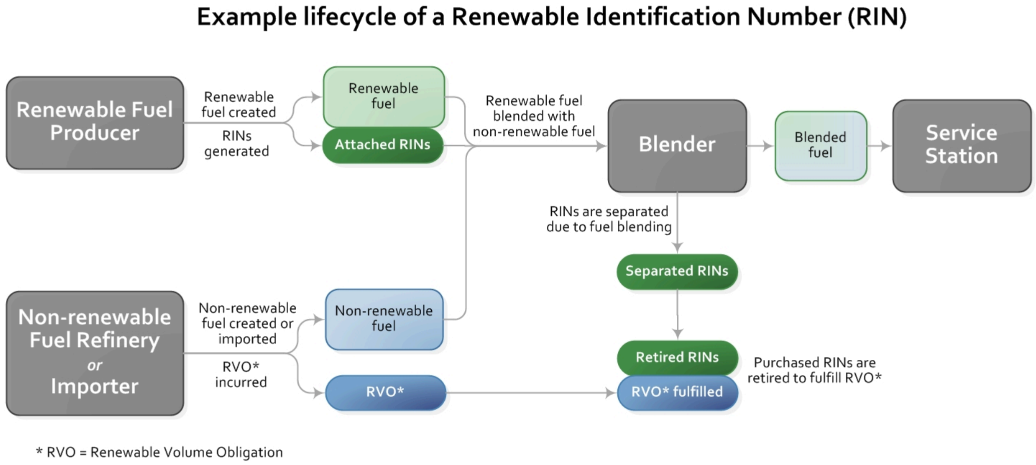
Source: DOE and Wells Fargo Securities, LLC

The Who, What and Where of RINs Generation and Settlement

The business that produces or imports an obligated fuel is required to produce or procure a RIN and present it to the EPA. However, that obligated party does not always possess the physical capacity to generate the RIN.

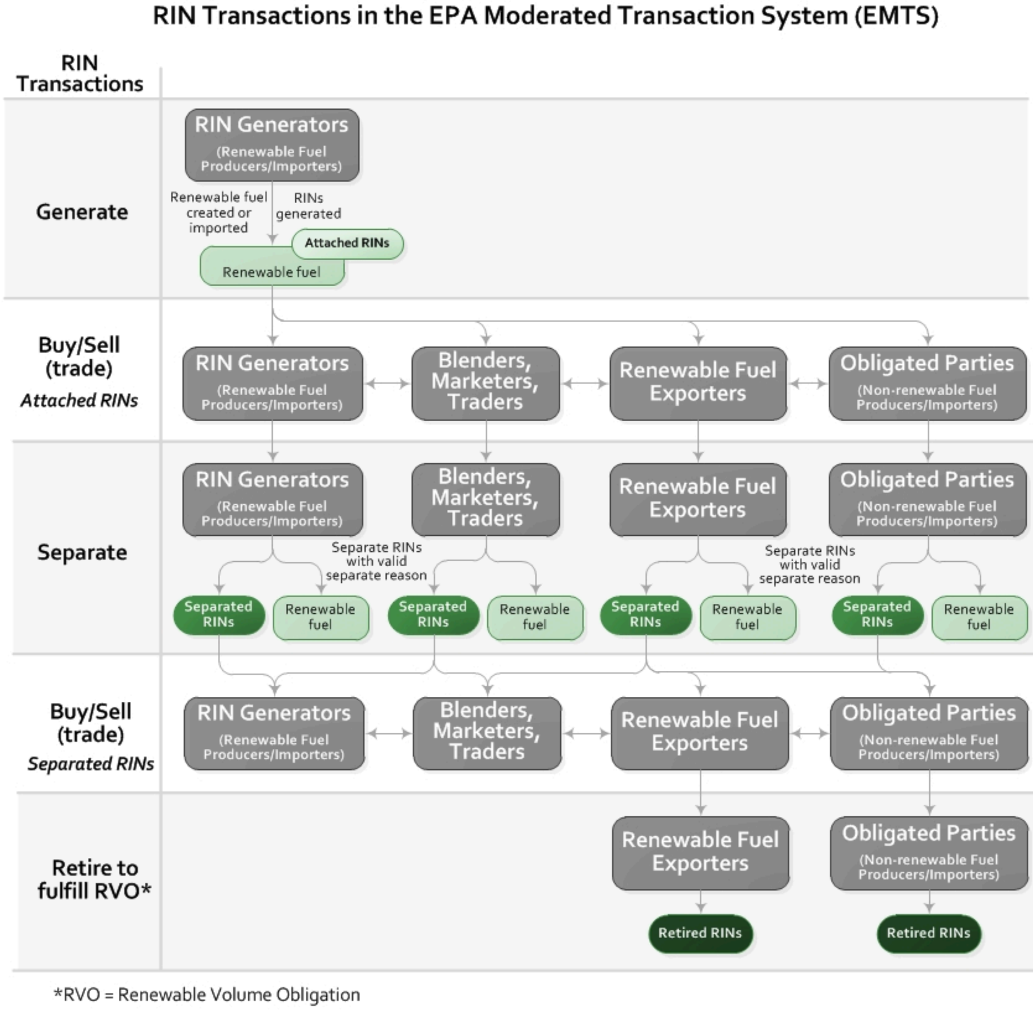
As an example, the refiner produces gasoline and thus becomes obligated for the RIN. The gasoline is sold into a major pipeline system (i.e., Colonial) at an ex-RIN price. The gasoline is ultimately delivered and blended where the RIN is created and value realized. The gasoline is then sold including the RIN, which is paid by the retail consumer. This leaves the blender with the extra value creation.

Exhibit 12 - Example Lifecycle of a RIN



Source: EPA

Exhibit 13 - RINs Transactions in the EPA Moderated Transaction System (EMTS)



Source: EPA

What is a RIN? The renewable identification number is a 38-digit unique number created when 1 gallon of ethanol is blended with 9 gallons of gasoline.

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