

Focus on Fuels

In This Issue

[TM&C Services](#)

[Show Me The Money](#)

July 2017

Volume 7, Issue 4

Show Me the Money

The ultimate arbiter of facts in a capitalist society is money. It is how we all keep score. Prices in an open market theoretically take into account all of the known facts as well as the impressions on the unknown things that might impact the market. A classic example of the unknowns in the regulatory world is the current swing in the political leanings of the former and current administrations relating to renewable fuel strategy. The only real scorecard for the renewable fuel program is the price of RINs. RIN pricing has generally been a reasonable predictor of the status of the renewable fuel program.



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TM&C Services in Fuel Regulations

TM&C provides a full range of services in its fuels regulatory practice. Some of these services are listed below.

- Preparing, reviewing and submitting fuels reports, including

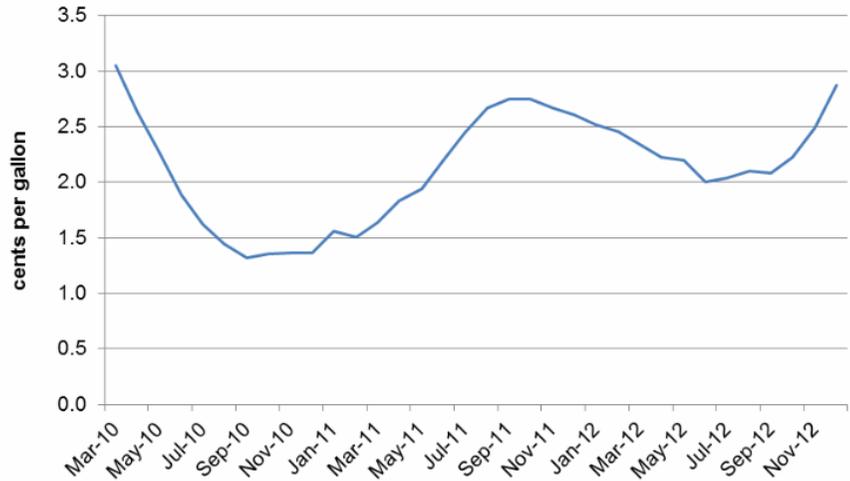
Show Me the Money

In the Beginning

The renewable fuel program was phased in with the renewable fuel standard phase 2 (RFS2) beginning in 2010. In the early years of the program (2010-2012), the required volume of renewable fuel was relatively small, and the distribution system was flexible enough to easily add the required volume of renewable fuel. The price for RINs was very low, essentially only a few cents per RIN gallon to reflect the cost of keeping up with the paper work. Probably the biggest factor in moderating RIN prices in this period was that the percentage of ethanol required for the mandate was well below 10% of the gasoline pool or the gasoline "blendwall." In addition, economics favored the addition of ethanol and typically, the actual volume of renewable fuel blended exceeded the mandated volume. The graph below shows the price for ethanol RINs in the early years.

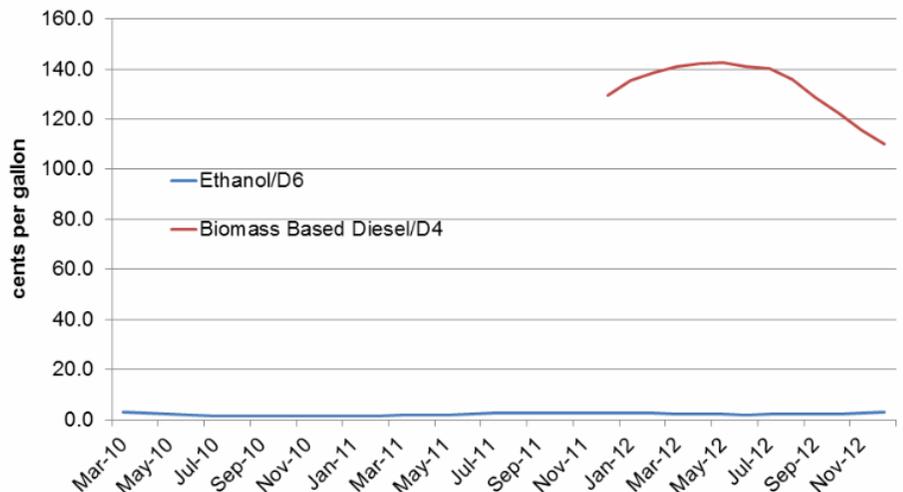
- CDX submissions.
- Facility audits for compliance with fuels programs.
- Interaction with EPA to pose fuels-related questions.
- Industry specialist assistance for required gasoline attestations.
- Industry specialist assistance for in-line blending audits.
- Assistance in setting up a fuels compliance group/program.
- Personnel reviews of compliance-related groups.
- Compliance status reviews and recommendations.
- Negotiations/consultation during EPA enforcement actions.
- 3rd-Party Engineering reviews.
- Due diligence reviews of facilities and companies in RFS RINs Program.

**Figure 1
Ethanol/D6 RIN Price
12 mo RA**



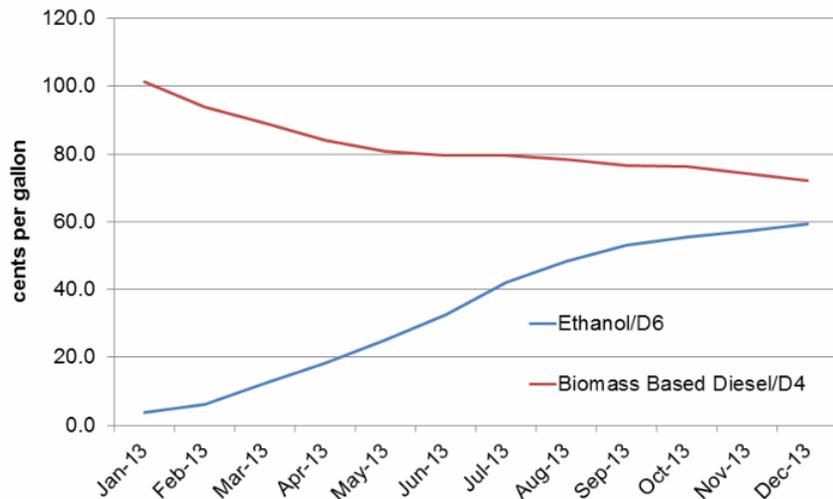
The cost across the industry was little more than a nuisance; however, the biodiesel RIN prices were a horse of a different color. They were 30 to 60 times more than the ethanol RIN prices beginning in 2011. All analyses at the time looked at the growth of biodiesel demand as the significant economic impact even though the volume of biomass-based diesel was less than 7% of the total required renewable fuel. Figure 2 shows that the cost of biodiesel RINs dwarfed the cost of ethanol RINs through 2012, but the program was not static, and things were about to change.

**Figure 2
RIN Prices, 12 Mo RA**



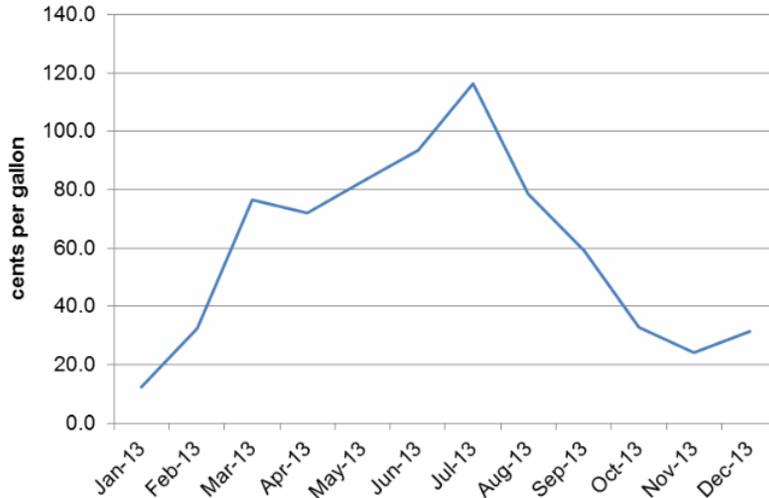
a crisis if the federal mandates were not reduced. The program called for sharp increases in renewable fuel which translated into more ethanol in gasoline. The mandate volume increased 30% (13.95 billion gallons to 18.15 billion gallons) from 2011 to 2014. It looked like the program would breach the 10 vol% gasoline blendwall in 2014 and the market reacted like any rational market faced with an insolvable problem - it went crazy. The obligation for 2013 (16.55 billion gallons) was significant but appeared to be doable if the prior year RIN inventory decreased; however, since the EPA seemed content with running down the inventory, the market assumed that would be the future standard operating procedure as well as sticking to the original mandated volumes. As a result, the ethanol price skyrocketed over the first few months increasing to over \$1.40 per RIN gallon in mid-July 2013, an increase of more than 25 times the closing price for 2012. EPA noted the problem and told the industry it would take care of it. The prices moderated somewhat for the rest of 2013, but the good old days of 5 cent root beers and 5 cent D6 RINs were long gone and have not been seen since.

Figure 3
2013 RIN Prices, 12 mo RA



The rolling averages do not show the dramatic movements in the D6 RIN prices during 2013 as shown in Figure 4 below.

Figure 4
2013 D6 RIN Prices

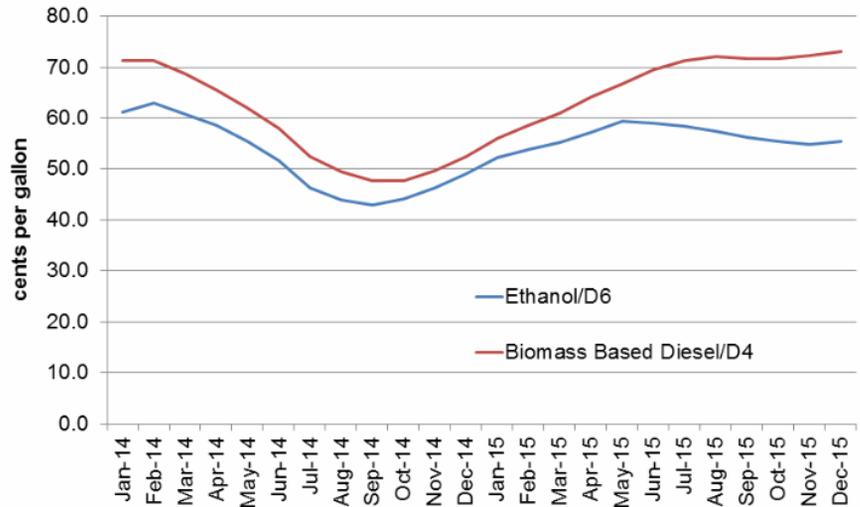


The RIN pricing landscape had changed for the foreseeable future with the price of D6 RINs coming close to the price of biomass-based diesel RINs. Almost overnight, the cost of the program increased from \$1-2 billion per year to \$8-10 billion per year or more. Analysts took note that the cost of biomass-based diesel RINs were no longer the dominant cost, but only 10-20%.

Wandering in the Wilderness

The EPA was faced with an intractable problem in 2013; stick with the original program and end up with gasoline shortages, or modify the program to reflect the realities of the gasoline blendwall and fall from grace with the "green" constituency which the then current administration strongly favored. The answer was three years of no decisions. The program was allowed to run with no mandate for two years, with the caveat that the regulated parties would be subject retroactively to whatever mandate the administration settled on ultimately. The RIN market also played a game of wait and see.

Figure 5
2014-15 RIN Prices
12 mo RA

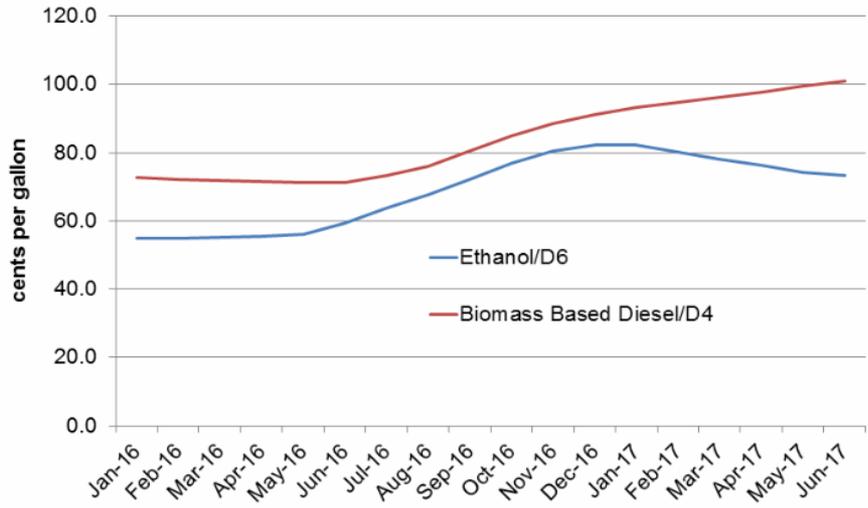


There were no \$1.50 per RIN gallon spikes, but after languishing and slowly drifting down in 2014, RIN pricing steadily moved up until the end of 2015. This reflects the blendwall limit and uncertainty if the obligation would ultimately be reinstated closer to the original mandate, which would have breached the 10 vol% blendwall.

Back on a Track

Mandates were set in December 2015 for 2016 setting the program on a path that attempted to "slightly" breach the blendwall forcing some production of E15/E85. Figure 6 below shows that the market still considers this to be difficult but as long as the program recognizes the blendwall, there should be no cause for alarm.

Figure 6
2016-17 YTD RIN Prices
12 mo RA



However, a look at the more granular daily data shows some interesting recent market reactions. Beginning in mid-January 2017 and through March 2017, there was a belief (widely held in the marketplace) that the new Administration might significantly alter the program and as a result D6/ethanol, RIN prices fell dramatically from 80 cents per RIN gallon to as low as about 35 cents per RIN gallon. The price relief was short-lived when it became obvious there would be no drastic changes to the program in the near term.

Satisfied that the program would not change dramatically, RIN pricing slowly drifted back to levels near those in early January. The market waited for the next sign, the first proposed RVOs set by the new administration. In early July, EPA proposed RVOs for 2018 that were almost the same as the obligations for 2017. These numbers were neither a cause for alarm nor rejoicing by the oil industry. They continued the pattern for 2017 which generally indicates the use of ethanol is probably maxed out until the E15 and E85 become viable; however, the use of biomass-based diesel RINs to satisfy the D6 obligation was widespread in 2016, if not the norm.

Where Do We Go from Here?

The next program events likely to impact RIN pricing (in order of appearance) are a) publishing the final rule on the 2018 RVO (November 2017), b) continuing or discontinuing the biodiesel tax credit (December 2017), c) compliance/reporting for 2017 (first Quarter 2018), and d) the prior year RIN carryover status from 2017 to 2018 (May 2017). Again in order of appearance, RIN pricing impacts for each of these events are likely to be, (a) Final rule will be the same as the proposed with neutral RIN impact, b) the biodiesel tax credit will be renewed with foreign biodiesel still included in the program with neutral RIN impact, c) adequate RINs will be available to meet the 2017 obligation with a slight tendency to reduce RIN prices, and d) the prior year

RIN inventory will remain at about 12% of the current year obligation or increase slightly with little RIN price impact.

The focus for the program has again shifted back to biomass-based and renewable diesel as the supplies that the petroleum industry can still use without breaching the gasoline blendwall. Ethanol is probably maxed out until the markets for E15 and/or E85 become viable. Any increase in renewable fuel usage will probably need to come from biomass-based and renewable diesel. Both of these diesel variants are dependent on the biodiesel credit. If the biodiesel credit is not renewed for 2017 (currently seems likely to be renewed), or legislators are successful in shifting the credit from blending to domestic production (thus eliminating the credit for imports) the D4 RIN price could increase dramatically. In any case, the best indicator of the direction of the RFS program is the RIN pricing. It always tells an interesting story.

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