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An RFS Update

August 25, 2021

Presentation at The Jacobsen Conference

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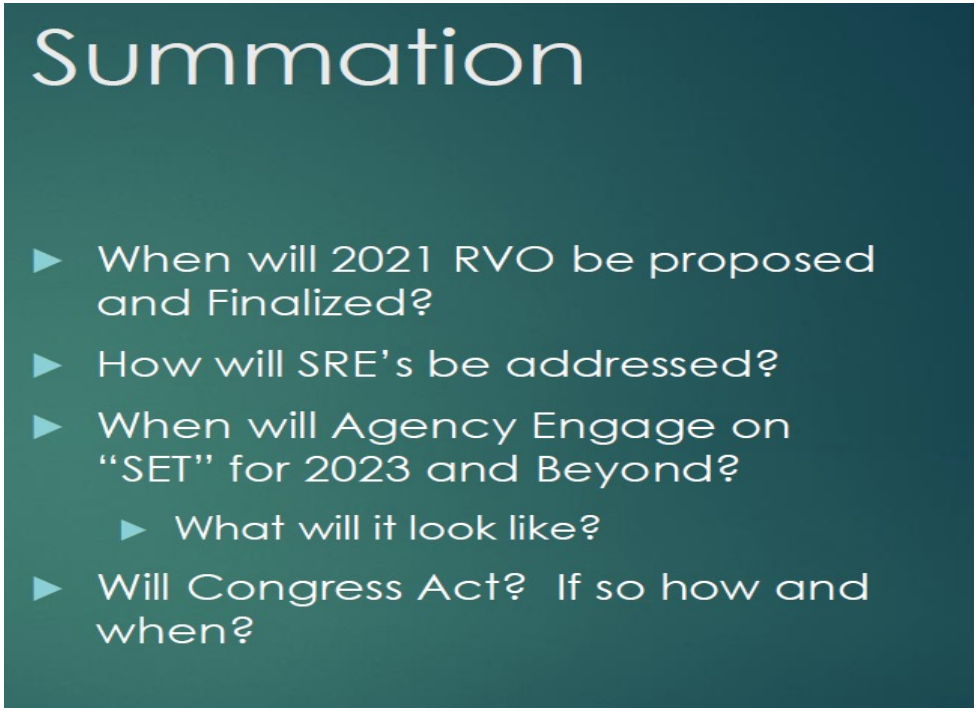
Today's Topics

- Status of 2021, 2022 RVOs
- Small Refinery Exemptions
- Renewable Diesel
  - Feedstocks
- What's coming?
  - 2023 and beyond

Who'd have thought….



From Paul Argyropoulos' Presentation at the OPIS conference last year

September 2020

and here we are in August 2021….

How many RINs does an OP need for compliance?

- Each OP's RIN requirement relates to the OP's share of the total US gasoline/diesel consumption
- All 4 RVO percentages are derived from a fraction:

$$\frac{\textit{Volume of Renewable Fuel for given calendar year}}{\textit{Volume of gasoline and diesel consumption for calendar year, (exclusive of any renewable fuels blended into them) and exclusive of small refinery exempted volumes}} = \_\_\%$$

- The percentages get multiplied by the OP's **gasoline and diesel production and imports** to calculate their annual RIN obligations
- All numerators are based on EISA (what Congress required) and the waiver authority used by EPA, if any

It's all about the values EPA uses for the numerator AND the denominator!

The ABCs of RVOs

Volume of renewable fuel for given calendar year

Volume of gasoline and diesel consumption for calendar year, exclusive of any renewable fuels blended into them and any gasoline/diesel fuel produced by exempted Small Refineries

- Congress's intent was for the numerator to constantly increase – implying that the consumption of renewable fuels, including cellulosic fuels, should increase, and the denominator was expected to concurrently increase to accommodate the added volumes of renewable fuels
- Gasoline/diesel consumption is dependent on many factors – the U.S. economy, pandemics, changes in transportation fuel demand due to better gas mileage, driving habits, technology, gasoline and diesel pricing, etc.
- Small Refinery Exemptions (SREs) were not used in the denominator of the fraction until 2020. In 2020, by including some exempted volumes, the denominator decreased, thereby raising the resulting fraction that applies to non-exempted refiners.

RIN "Nesting"

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RINs That Can Be Used To Meet Each Standard In RFS2

Standard	Obligation	Allowable D codes
Cellulosic biofuel	RVO_{CB}	3 and 7*
Biomass-based diesel	RVO_{BBD}	4 and 7*
Advanced biofuel	RVO_{AB}	3, 4, 5, and 7
Renewable fuel	RVO_{RF}	3, 4, 5, 6, and 7*

EISA and EPA RVO Calcs

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ANNUAL RVOs

Year	Cellulosic Biofuel billion EtOH gal/yr	Biomass-Based Diesel billion gal/yr	Advanced Biofuels billion EtOH gal/yr	Total Renewable Fuels billion EtOH gal/yr
2019 (statute)	8.5	≥ 1.0	13	28
2019 (final)	0.418 (0.230%)	2.19 (1.73%)	4.92 (2.71%)	19.92 (10.97%)
2020 (statute)	10.5	≥ 1.0	15	30
2020 (final)	0.590 (0.340%)	2.43 (2.10%)	5.09 (2.93%)	20.09 (11.56%)
2021 (statute)	13.5	≥ 1.0	18	33
2021 (final)		2.43		
2022 (statute)	16	≥ 1.0	21	36
2022 (final)				

What if 2021 Biofuel Vols = 2020?

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Waived:	9.91	NA	9.91	9.91
2021 (statute)	13.5	≥ 1.0	18	33
2021 (final EST.)	0.59	2.43	5.09	20.09
Waived:	12.91	NA	12.91	12.91
2022 (statute)	16	≥ 1.0	21	36
2022 (final)				

If EPA leaves the numerator of the fraction the same in 2021, then the only variables are G+D demand and SRE volumes, i.e. the percentages can change from 2020.

What happens in 2022?

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2022 (final EST)	0.59	2.43	5.59	20.59
Waived:	15.41	NA	15.41	15.41

No matter what volume EPA waives down the CB RVO volume by, the AB RVO will increase by 0.5 billion RINs

2021and 2022 RVOs

- Proposal yet to be issued – October? Or not?
- 2021 will be separate from 2022 but likely to be in same proposal
- EPA needs to decide:
  - What EIA gasoline + diesel forecast to use
  - Currently, EIA 2021 G+D demand = 196.121 bgy
    - Gasoline demand is 0.5 B bpd lower than 2019
    - Diesel demand is < 0.1 B bpd lower than 2019
    - Ethanol demand is 10.21% of total gasoline
    - Renewable (BD/RD) is ~5% of total distillates
  - How to handle SREs?

Small Refinery Exemptions

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Compliance Year	Petitions Received	Grants Issued	Denials Issued	Ineligible	Withdrawn	Pending
2011	42	24	13	3	2	0
2012	41	23	13	3	2	0
2013	30	8	18	0	4	0
2014	28	8	16	0	4	0
2015	28	7	17	1	3	0
2016	29	19	7	0	2	1
2017	37	35	0	0	1	1
2018	44	31	5	2	3	3
2019	32	0	0	0	2	30
2020	23	0	0	0	0	23
2021	1	0	0	0	0	1

Petition counts include submissions from small refineries that are seeking reconsideration of petitions that were previously denied. Accordingly, the count for any given compliance year may include petitions from the same small refinery being represented as both a denial and as still pending.

RFS Feedstocks

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EPA approved feedstocks include:

For Renewable Diesel (EV =1.7)

- ✓ Soybean Oil (D4)
- ✓ Tallow(D4)
- ✓ Waste Veg Oils(D4)
- ✓ Palm Oil* (D6)
- ✓ Used Cooking Oil (D4)
- ✓ Distillers Corn Oil (D4)
- ✓ Distillers Sorghum Oil (D4)
- ✓ Camelina Sativa Oil (D4)
- ✓ Algal Oil (D4)
- ✓ Oil from Covercrops(D4)
- X CANOLA/Rapeseed

* Only for grandfathered facilities

For Renewable Naphtha (EV = 1.5)

*All (**D5**)*

- ✓ Tallow
- ✓ Waste Veg Oils
- ✓ Used Cooking Oil
- ✓ Distillers Corn Oil
- ✓ Distillers Sorghum Oil
- ✓ Camelina Sativa Oil

X Soybean Oil

X CANOLA/Rapeseed

Soybean Oil feedstock

- If a RD producer uses soybean oil:
  - Can generate 1.7 D4 RINs on RD
  - Generates NO RINs on Renew. Naphtha
  - Naphtha produced from SBO that gets blended into gasoline INCURS AN RVO, if no RINs are generated for it
  - Producer could petition EPA to be able to make D6 RINs on RD and RN (if D4 and D6 RINs are close in price)
    - If granted, the RN, when blended into gasoline would be excluded from RVO calculations
    - Producer would have to show EPA how they will prevent making D4 RINs on RD when making D6 RINs on the naphtha

Canola Oil Feedstock

- Producer could petition EPA to allow them to generate D6 RINs on RD and RN
- If granted, the RN would not incur an RVO when blended into gasoline
- No need to prove to EPA that you will not generate D4 RINs on RD

Post 2022

For years after 2022, EPA, in conjunction with DOE and USDA, shall set the annual RVOs based on a review of the implementation of the RFS program during the calendar years 2010 – 2022 and on the results of studies (see next slide).

- Rules to be finalized no later than **Nov 1, 2021 or not…**
- BBD RVO shall be equal to or greater than 1 billion gallons
- AB RVO shall be at least the same percentage of the RF RVO as in 2022

- WITHOUT CONGRESSIONAL INTERVENTION, THE RFS PROGRAM GOES ON FOREVER

EPA's Authority under EISA 2023 and beyond

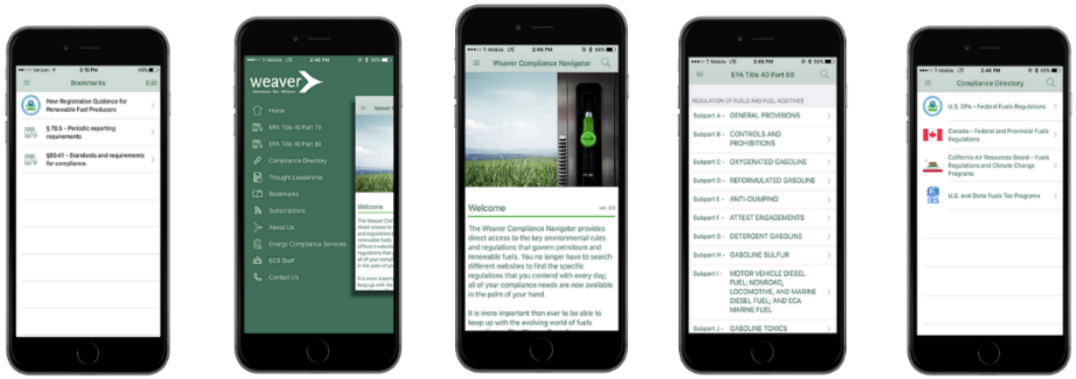
- Set Provision
  - Before setting the new standards, EPA must conduct studies in conjunction with USDA, DOE on RFS impact on:
    - Air quality, climate change, conversion of wetlands, water quality, etc.
    - Energy security of the U.S.
    - Expected annual rate of production of renewable fuels
    - Infrastructure
    - Cost of transportation fuels and cost to transport goods
    - Job creation, price of ag commodities, food prices, etc.

What can we expect?

- RVOs set for multiple years with a mechanism for adjustment annually
- Implementation of the Electric Vehicle pathway
- Resolution of the biointermediate issue
- Higher EVs/gallon for lower GHG emissions and carbon capture projects
- Changes to certain pathways

WEAVER'S COMPLIANCE NAVIGATOR APP

New features that simplify staying up to date with environmental regulations



- Searchable directories of the EPA's Code of Federal Regulations, Title 40, Parts 79 and 80
- Ability to bookmark important and relevant information
- Enhanced search capabilities
- Option to receive customized email and/or push notifications for both Compliance Updates and Weaver Thought Leadership

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Questions?

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Thank you for the opportunity to speak with you today !

If you have any questions, please feel free to contact me:

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