April 28, 2025

Sent via email

Alex Dominguez
Deputy Assistant Administrator for Mobile Sources
Office of Air and Radiation
U.S. Environmental Protection Agency
1200 Pennsylvania Ave., NW
Washington, DC 20460

Re: Follow-up Information Regarding Renewable Fuel Standards Program

Dear Alex,

When we met earlier this month, we committed to provide our analysis of the Renewable Fuel Standard ("RFS") compliance pathways provided through the Cellulosic Waiver Credit ("CWC") mechanism and deficit carryforward provision. We are also providing our most recent calculations of the available 2026-2027 supply volumes for purposes of setting cellulosic biofuel renewable volume obligations ("RVOs").

By way of background, we are providing a brief overview of how RINs are used to meet RVOs. As you know, the RFS is a creation of the Energy Policy Act of 2005 and the Energy Independence and Security Act of 2007 ("EISA"). EISA incentivized the growth of the cellulosic biofuel category when it established a statutory goal for transportation fuel "sold or introduced into commerce in the United States"[1] to contain at least 16 billion gallons of cellulosic biofuel by 2022.[2] EISA also required that the U.S. Environmental Protection Agency ("EPA"), in coordination with the Secretary of Energy and the Secretary of Agriculture, set RVOs based in part on "the expected annual rate of future commercial production of renewable fuels, including advanced biofuels in each category."[3] Accordingly, EPA is required by statute to set RVOs based on estimated future supply to incentivize growth, rather than on current supply, demand, or dispensing capacity.

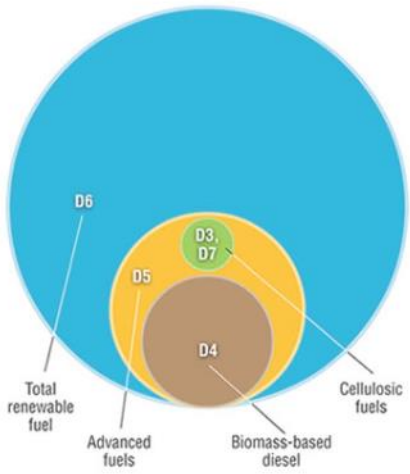
As a means of energy security, the U.S. policy underlying these statutes was to increase the production of clean renewable fuels. The RFS requires producers and importers of gasoline or diesel fuel ("obligated parties") within most of the United States to meet RVOs each year as a way of increasing the domestic supply of renewable fuels. To meet RVOs, obligated parties must retire Renewable Identification Numbers ("RINs"), that represent renewable fuel that has been generated and inserted into the nation's fuel supply.

[1] 42 U.S.C. § 7545(o)(2)(A)(i).
[2] 42 U.S.C. § 7545(o)(2)(B)(i)(III).
[3] 42 U.S.C. § 7545(o)(2)(B)(ii).

EPA created renewable fuels categories D-3, D-4, D-5, D-6, and D-7.[4] Each approved pathway is assigned one of these D-codes.[5] An approved pathway is defined by its feedstock and the conversion process used to make it into fuel.[6] Currently, there are twenty approved pathways to generate RINs.[7] Code D-3 fuel is for cellulosic biofuel, D-4 is for biomass-based diesel fuel, D-5 is for advanced biofuel, D-6 is for renewable fuel, and D-7 is for cellulosic diesel fuel.[8]

Obligated parties are required to retire for compliance purposes a combination of various D-coded RINs to meet their RVO requirements.[9] However, some D-code RINs can satisfy the requirements for other D-code RINs.[10] For example, D-3 fuel requires a more specific form of feedstock than D-5 fuel and must result in greater emission reductions than D-5 fuel. Therefore, D-3 RINs can satisfy RVO requirements for D-3 or D-5. Likewise, D-4 and D-7 RINs can satisfy the requirements for D-5 RINs. All RINs can satisfy the requirements for D-6 RINs. See the below graphic to help visualize how each D-coded RIN nests within other D-coded RINs.

Figure 3. Renewable fuel and RIN nesting in the RFS



Source: 101 For RINs, BioCycle (Nov. 13, 2017).

In its comments on the EPA's proposed rule to partially waive the 2024 Cellulosic Biofuel Volume Requirements and Extension of 2024 Compliance Deadline (Docket ID No. EPA-HQ-OAR-2024-0411) (the "Proposed Rule"), OPAL Fuels ("OPAL") explained that EPA should never retroactively apply market balancing mechanisms. There are existing mechanisms in place, namely the Cellulosic Waiver Credit ("CWC") mechanism and the 20% deficit carryforward (which could

[4] 40 C.F.R. § 80.1426, Table 1.
[5] *Id.*; 40 C.F.R. § 80.2.
[6] 40 C.F.R. § 80.1426, Table 1.
[7] *Id.*
[8] Renewable Identification Number (RIN) Renewable Fuel Category (D-Code), *available at*: https://www.epa.gov/renewable-fuel-standard-program/what-fuel-pathway (Feb. 7, 2025).
[9] 40 C.F.R. § 80.1247(a).
[10] *Id.* § 80.1427(a)(2).

also be modified in a proposed rule to allow for more compliance flexibility), to address potential volume shortfalls.

CELLULOSIC WAIVER CREDIT MECHANISM

The CWC mechanism provides a compliance pathway for obligated parties when cellulosic biofuel production falls short of the RVO established under the RFS program.[11] Unlike the general waiver authority, which reduces overall volume obligations, the CWC mechanism allows obligated parties to purchase compliance credits as an alternative to blending cellulosic biofuels, ensuring compliance while mitigating the impact of production shortfalls.

The EPA must determine the availability of cellulosic biofuels and finalize the applicable CWC price by November 30th of the preceding year, ensuring that the mechanism is forward-looking and provides clarity to obligated parties.[12] The statute specifies that the price of CWCs is calculated as the greater of $0.25 per gallon or $3.00 minus the wholesale price of gasoline, adjusted annually for inflation.[13] Although CWCs act as a price cap and can potentially hinder cellulosic biofuel production growth if they are set too low, they are significantly less disruptive to the market than retroactive general waivers. If EPA manages the RFS program holistically, including proactive volumes for advanced biofuels (i.e., D4 and D5 categories), the CWC mechanism can be an effective compliance tool for all program participants and achieve a high enough price cap to support the statutory intentions of incentivizing growth of the cellulosic category.

Importantly, while the CWC price has not been set since 2022 (i.e., pre-2023-2025 RFS Rule (the "Set Rule"[14])), the CWC mechanism is still available in a post-Set Rule world. In publishing the Set Rule, EPA explained that CWCs could be available in future years (e.g., after 2025) or with regulatory action:

> We interpret CAA section 211(o)(7)(D)(ii) such that CWCs are only made available in years in which EPA uses the cellulosic waiver authority to reduce the cellulosic biofuel volume. Because of this, cellulosic waiver credits would not be available as a compliance mechanism for obligated parties in these years absent a future action to exercise the cellulosic waiver authority.[15]

While the statute requires ("shall make available") that the Administrator make cellulosic biofuel credits available whenever the Administrator reduces the minimum cellulosic biofuel volume pursuant to 42 U.S.C. § 7545(o)(7)(D)(i), that does not limit EPA's ability to make cellulosic biofuel credits available under other circumstances.[16] In fact, EPA acknowledged in its response

[11] 40 C.F.R. § 80.1456.
[12] 42 U.S.C. § 7545(o)(7)(D)(i).
[13] *Id*. § 7545(o)(7)(D)(ii).
[14] 88 Fed. Reg. 44,468 (July 12, 2023).
[15] *Id*. at 44,479.
[16] "[T]he statute does not explicitly prohibit the issuance of CWCs in circumstances other than those articulated in CAA section 211(o)(7)(D), ..." Response to Comments, EPA-420-R-23-014 at 10 (June 2023).

to comments on the proposed Set Rule that circumstances may require it to reassess the use of CWCs in the future.[17]

As such, and consistent with the Trump Administration's deregulatory agenda focused on revising regulations that are "inconsistent" with implementing statutes,[18] we encourage the Administration's re-evaluation of this compliance mechanism in the next Set Rule ("Set Rule 2.0") to clarify that EPA has the authority to provide obligated parties the opportunity to purchase CWCs for compliance years in which the Agency did not also waive down the applicable volume of cellulosic biofuel. Issuing CWCs will increase the integrity of the RFS program by providing an additional compliance pathway, volume confidence for obligated parties and biofuel producers, and less volatile liquidity in the RIN market. As a result, this action will alleviate unpredictable "boom-and-bust" pricing challenges and incentivize new cellulosic biofuel investment.

DEFICIT CARRYOVER

Renewable natural gas ("RNG") is a form of cellulosic biofuel derived from biogas produced by landfills, livestock waste, wastewater treatment plants, food waste and other organic waste facilities. Other D3 biofuels, such as cellulosic ethanol produced from agricultural residues, provide an additional avenue to meet RVOs. Together, these sources currently available in the market, along with the allowable 20% carryover of unused RINs from the prior compliance year,[19] provide a framework for compliance amid D3 RIN shortages.[20]

Available data indicates that we are within deficit carry forward volumes through 2023 and 2024 and EPA appears to be considering potential 2025 D3 RIN generation shortfalls. However, as mentioned previously, EPA's general waiver authority is meant to address extreme biofuel <u>supply</u> shortfalls, <u>not</u> credit shortfalls.

OPAL's evaluation of D3 RIN credit generation in 2025 indicates that the 20% carryover is adequate to address cumulative RIN generation shortfalls. It is important to note that RNG biofuel supplies likely exceeded the credit generation noted below. Additionally, D3 RIN generation for 2025 is estimated:

[17] "Aside from what already exists in the statute, we decline at this time to put forth additional criteria under which we might waive the cellulosic volumes, as the need to waive volumes is likely to be a function of the specifics of the situation. Nevertheless, should there be a significant shortfall in the cellulosic biofuel market, we would assess the situation to determine whether the use of the cellulosic waiver authority would be appropriate." *Id*. at 9.
[18] 90 Fed. Reg. 15,481 (April 11, 2025).
[19] 40 C.F.R. § 80.1427(b).
[20] Obligated parties can meet their RVOs by proactively anticipating their compliance requirements and relying on the 20% deficit carryover when the market experiences D3 RIN shortages.

	2023	2024	2025
Supply	775	1021	1367.6
RVO	838	1090	1376
Cumulative Surplus	-63	-132	-140.4
Shortfall %	**-8%**	**-12%**	**-10%**

Importantly, given 2025 will be the third year of the previous Set Rule, any 2025 D3 RIN shortfalls within the 20% deficit carryover limit can be addressed in Set Rule 2.0 volumes for 2026 onward.

SET RULE 2.0 SCOPE

When thinking about two- or three-year volume sets – again, a holistic approach is required. If the volumes set in the upcoming Set Rule 2.0 are aggressive yet achievable to incentivize growth, and the deficit carry forward/CWC are used together, two years may make more sense. A shorter timeframe will also allow EPA to more easily re-evaluate forecasts that are difficult to make past 18-24 months.[21]

D3 RVOs

Finally, it is important that 2026-2027 RVOs for D3 cellulosic biofuels reflect the industry's current and future cellulosic biofuel production capacity. Bringing a new cellulosic biofuel production site online takes 18-24 months, so analyzing only current production does not account for the supply that will be available during the applicable compliance year.

Based on cellulosic biofuel production sites currently in operation and under construction, OPAL recommends that the EPA establish a 2026 cellulosic biofuel volume target between 1.7-1.8 billion RINs and a 2027 cellulosic biofuel volume target between 2.0-2.1 billion RINs, with total renewable fuel volume targets between 24.9-25.4 billion RINs and 25.9-26.0 billion RINs, respectively.[22] The following tables and figures, which include information from 11 industry-leading cellulosic biofuel producers (identified as Companies A-Companies K) provide more information on these targets.

[21] This is the typical development cycle of new cellulosic renewable fuel supply.

[22] This information was gathered from publicly available information and confirmed by individuals at these companies (when feasible). A coalition of companies collectively producing 60% of the D3 RINs coordinated this data. These proposed volume targets are in billion RINs.

Figure 1. Estimated D3 RINs (in millions) by Feedstock (2023-2027).

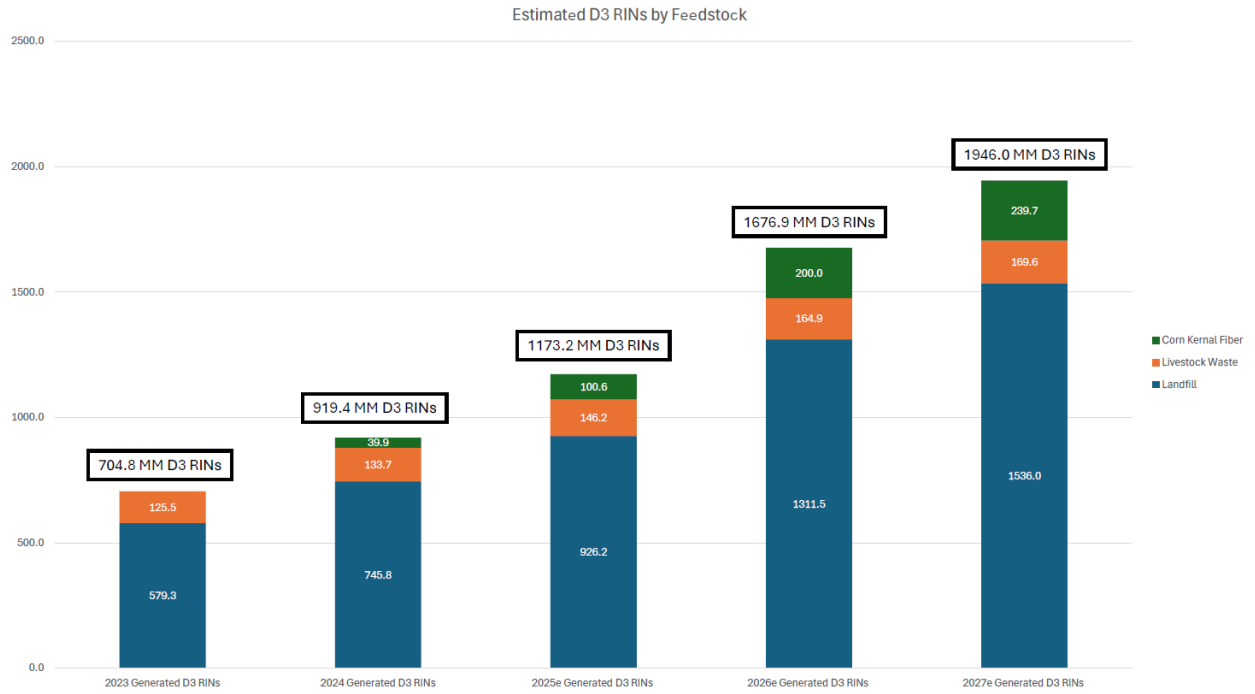


Figure 2. Estimated D3 RIN Generation (in millions) by Producer (2023-2027).

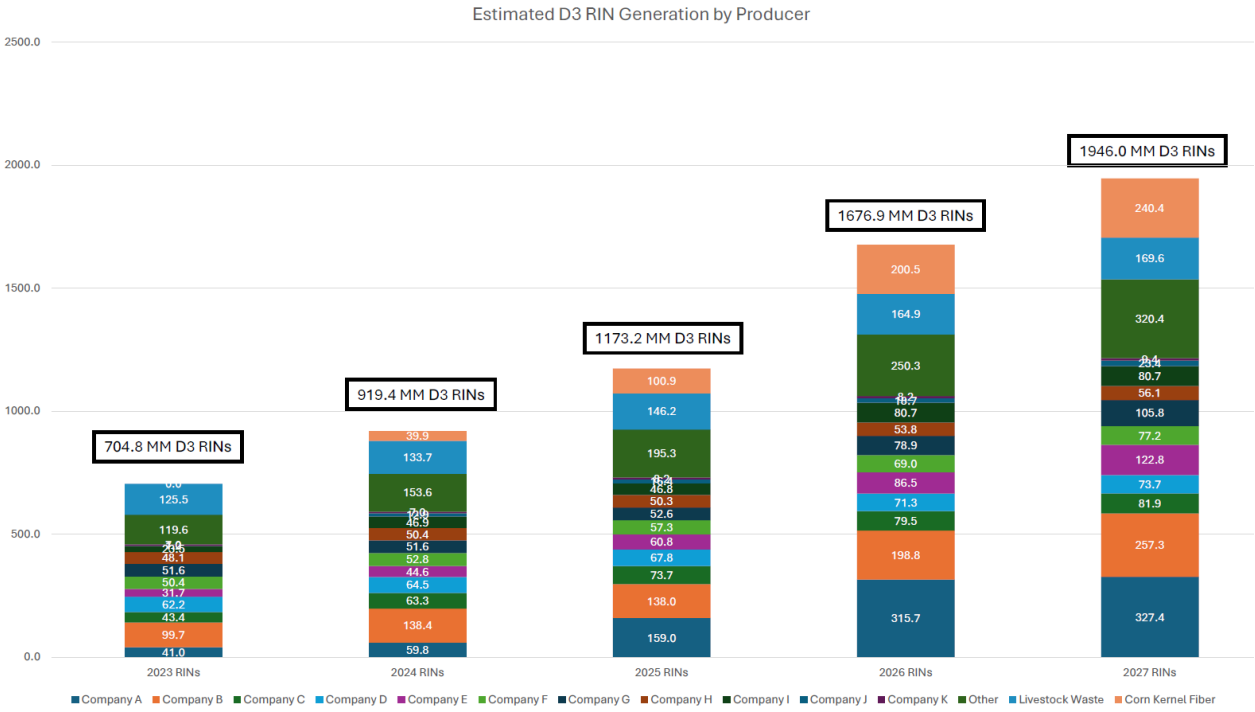


Figure 3. Estimated Production (in billion cubic feet) by Feedstock (2023-2027).

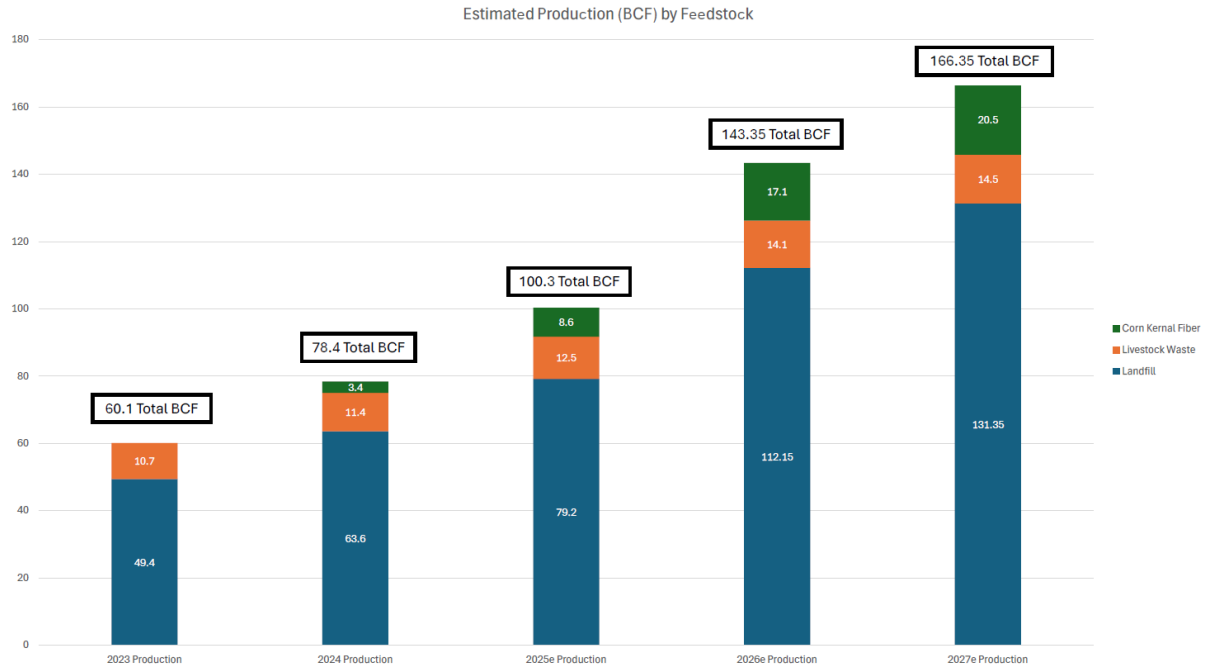
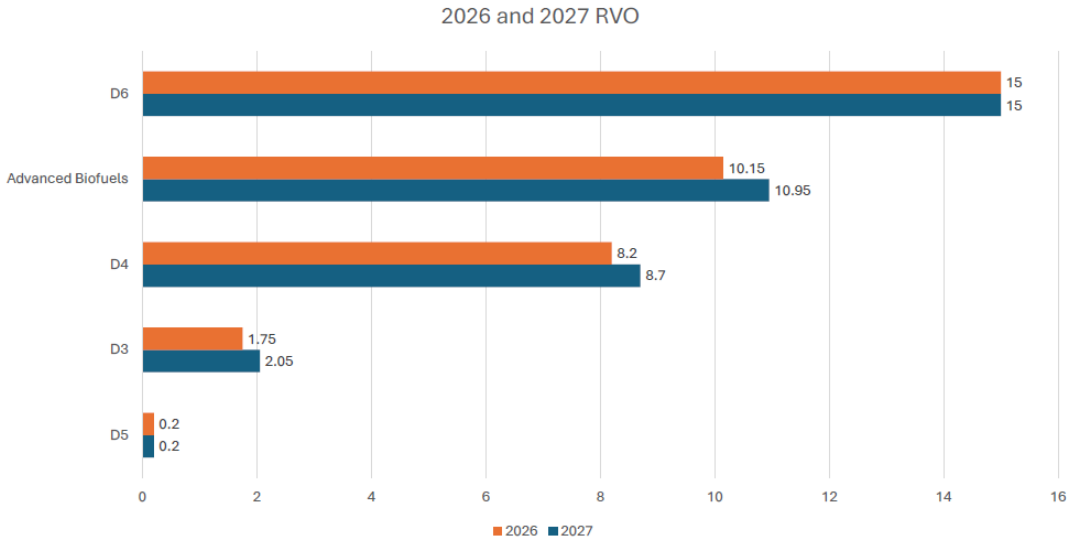


Table 1. 2026 and 2027 RVO Distribution by RIN Category (in billion RINs).



RIN Category	2026	2027
D6	15	15
Advanced Biofuels	9.9 - 10.4	10.9 - 11
D5	0.2	0.2
D4	8.0 - 8.4	8.7
D3	1.7 - 1.8	2.0 - 2.1
Total RINs	**24.9 - 25.4**	**25.9 - 26.0**

CONCLUSION

While it is important for EPA to establish robust RVOs, it is also equally important for EPA to concurrently encourage new pathways, such as those related to marine fuel and others, to rectify pathway restrictions from the Biden administration and to ensure biofuel producers have the production capacity necessary to meet the RVOs. The EPA has sufficient tools within its existing statutory authority to address near term compliance shortfalls without resorting to retroactive waivers, such as the deficit carry-forward provision under 40 C.F.R. § 80.1427(b) for 2024 and CWC, in conjunction with establishing volumes in Set Rule 2.0 to alleviate market imbalances from the previous Set Rule. The Trump Administration has the opportunity to effectively manage the RFS program to achieve both the statute's objectives and encourage American biofuel production. A strong D3 RVO, a two-year Set Rule 2.0, use of the CWC, and new approved pathways will be instrumental in the success of RNG in the United States and unleashing new investment in American biofuels.

We look forward to continued engagement with the EPA on this important issue.

Sincerely,

Adam Comora

Adam Comora
Co-Chief Executive Officer

cc: Ben Hengst, Deputy Director, Office of Transportation and Air Quality