Clean Fuels ALLIANCE AMERICA

Renewable Fuel Standard (RFS)

1

Renewable Fuel Standard (Federal Policy)

The **EPA** sets annual **Renewable Volume Obligations (RVO),** establishing the minimum volume of bio-based renewable fuels required to be blended into transportation fuel.

2

Oil Refineries

Obligated parties are legally mandated to meet assigned RVO targets through one of two pathways.

Obligation

Calculated as a percentage of the non-renewable transportation fuel they produce.

A. Fulfill RVO

Physical blending of required renewable fuel volumes.

B. Trade Renewable Fuel Credits (RINs)

Buy or sell excess credits to meet RVO balance.

3

Biomass-Based Diesel Producers

RVO targets demand for producers to expand capacity and produce **Biodiesel, Renewable Diesel,** and **Sustainable Aviation Fuel.**

4

Feedstock Processing Facilities

Refiners procure oils & fats from processing hubs:

- Soybean Crush Plants
- Animal Fat Renderers
- Used Cooking Oil (UCO)

5

Farmer and Rancher

Producers cultivate soybeans & agricultural feedstocks to satisfy demand.

- Diversified Farm Income
- Rural Economic Development
- Sustained Product Demand

Supply Chain Mechanics

RIN Credits: Serve as compliance currency generated when clean fuels are blended into a final fuel.

Policy Pull: Federal volume requirements create structural, long-term market demand for agriculture.

Industry Growth

When the RVO is met by the industry, federal policymakers can **raise future RVO targets.**

- Biorefiners bring more capacity online
- Local crush increases, raising the basis
- Clean fuels represent 10% of the value of soybeans

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Materials supported by the United Soybean Board, soybean farmers and their checkoff.

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RINs 101

RINs: Compliance Currency

Renewable Identification Numbers (RINs) are 38-digit numbers generated by renewable fuel producers. After the renewable fuel is blended, RINs are separated from the blended gallon and are used by obligated parties to show compliance with the RFS.

Market participants such as obligated parties, renewable fuel exporters, and renewable fuel producers trade RINs. Obligated parties - refiners and importers of gasoline or diesel - obtain and then ultimately retire RINs for compliance.

Rollover:
Obligated parties can use prior-year RINs to meet up to 20% of current year obligations.

Market Tradeable:
Bought & sold on primary and secondary markets.

RIN D-Code

There are different **RIN "D-Codes"** corresponding to different renewable fuels. Each RIN D-Code has its own target for the year, **and they are nested; i.e., when a refiner meets its biomass-based diesel (D4) obligation, it is simultaneously meeting part of the larger advanced biofuel and overall renewable fuel obligations.** For **conventional ethanol, 1 gallon generates 1 RIN.** However, other fuels have different ratios. **Renewable Identification Numbers (RINs)** are generated per physical gallon of a specific renewable fuel and its energy equivalence value. One RIN is equivalent to one ethanol-equivalent gallon of renewable fuel.

Standard energy equivalence values range from 1.0 to 1.6.

Excess RINs from certain categories can fulfill other categories. That is known as the nesting structure.

D6 – Renewable Fuel

≥ 20% Lifecycle GHG Red

- Corn Starch Ethanol
- Sorghum ethanol
- Conventional Biofuels

Fulfills: D6 Only

D5 – Advanced Biofuel

≥ 50% Lifecycle GHG Red

- Sugarcane Ethanol
- Renewable Naphtha
- Renewable Propane
- Co-Processed Renewable Diesel

Fulfills: D5, D6

D3 – Cellulosic Biofuel

≥ 60% Lifecycle GHG Red

- Cellulosic Ethanol
- Renewable Natural Gas (RNG)
- Agricultural Biogas (CNG/LNG)

Fulfills: D3, D5, D6

D4 – Biomass-Based Diesel

≥ 50% Lifecycle GHG Red

- Biodiesel (FAME)
- Renewable Diesel (HDRD)
- Renewable Jet/ Sustainable Aviation Fuel (SAF)
- Renewable Heating Oil

Fulfills: D4, D5, D6

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