Advanced Biofuels Association

The Future of Renewable Diesel and Jet Fuel *Is Bright*

Advanced Biofuels Association
August 27, 2021

Michael McAdams, President

Who We Are

Advanced Biofuels Association

BP
BSBIOS
Cargill
Castleton (CCI)
Diamond Green
Eco Engineers
ExxonMobil
Fulcrum
Gevo
Harvestone Group
Honeywell UOP
ICOF
Iogen
LanzaJet
LanzaTech
Love's Travel Stops
Louis Dreyfus Company
Murex
Musket
NEFI
Neste
Novita
Nuseed
Oberon Fuels
Owensboro Grain
Phillips 66
Pilot Flying J
RBF
Red Rock Biofuels
REG
Sappi
SCB
Shell
Specoil
Sprague Energy
SunGas Renewables
Targray
Texon
Trillium
Velocys
Victory Renewables
Virent
Vitol
Weaver
World Energy

Diesel and Jet Fuel Demand

Advanced Biofuels Association

Aviation fuel demand in 2019 demonstrates pre-COVID levels:

- Global demand was 96 billion gallons
- U.S. demand was 27 billion gallons
- US diesel demand 52 billion gallons

The fastest growing fuel demand in the world is aviation fuel.

New Renewable Diesel Plants

Advanced Biofuels Association

Location	Company	Capacity (mg/y)	Timing
Dickerson, ND	Marathon	184	2020
Norco, LA	Diamond Green	675	2021
Wynnewood, OK	CVR	100	2021
Bakersfield, CA	Bakersfield Renewable Fuels	230	2022
Cheyenne, WY	HollyFrontier	90	2022
Artesia, NM	HollyFrontier	110	2022
Paramount, CA	World Energy	330	2023
Rodeo, CA	Phillips 66	680	2023
Martinez, CA	Marathon	736	2023
Geismar, LA	REG	340	2023
Port Arthur, TX	Diamond Green	400	2024
Total		**3,875,000,000 gallons per year**	

Political Challenges to RFS

Advanced Biofuels Association

- Electric vehicles are the “darling” solution for greens
- Aviation fuel the darling of the discussion in this administration
- The Administration is balancing priorities, and doesn’t want RFS politics to hamper larger agenda
- No clear direction of the “set” process due in 2023
- Low probability Congress will touch RFS anytime soon
- Tax options more likely to pass – a lot of focus on a jet credit.
- NO RVO as yet to comment on, No transparency on that they intend

Where’s the policy beef?

2021 and 2022 RVO

Advanced Biofuels Association

- ETHANOL
  - 2016: 14.9 BILLION GALLONS
  - 2019: 12.3 BILLION GALLONS

  - BIODIESEL
  - 2016: 2.5 BILLION- = 3.879 BILLION rins
  - 2019: 2.44 BILLION- = 3.796 BILLION rins

  - 2020 GALLONS
  - BIODIESEL: 1.9 BILLION, RD: 912.4 MILLION AV:2.4 MILLION
  - TOTAL 2.88 BILLION GALLONS USED!!

RVO Hypothetical options

Advanced Biofuels Association

- 700 TO 800 MILLION REDUCTION FROM 2020
- SRE'S BACK TO THE 2013 GRANTED: 300 TO 350 MILLION
- ETHANOL STAYS AT 15 BILLION GALLONS
- ?? DO THEY GRANT THE 2016 COURT RULING== 500 MILLION
- WHATS IT MEAN FOR REALLOCATION (2019)

Increasing Opportunities for Blending

Advanced Biofuels Association

Under the Renewable Fuel Standard (RFS), EPA sets the volume levels obligated parties must blend into the transportation fuel supply annually (the Renewable Volume Obligation, or “RVO”)

- If volume is produced, EPA must reflect this volume in the RVO
- This allows the free market to produce more volumes that are phased in and reflected in the program phase
- These fuels must meet a minimum of a 50% carbon reduction to qualify as advanced biofuels under the RFS

To unlock greater volumes, we must increase access to feedstocks beyond what is currently permissible to get to a 50% or greater blend rate of 50% or better GHG performing components in the aviation fuels mix

Advanced Biofuels Association

EPA Barriers to Jet Fuel Production

Increasing feedstock availability and use under the RFS relieves volume limitations:

1. Finalize a 2016 rule permitting the use of non co-located “biointermediates” under the RFS program
   - Would enable feedstocks to be processed into intermediary feedstocks, then transported to other locations to be upgraded into jet fuel

2. Review programmatic flexibility for the use of compliant wood and municipal solid waste (MSW) feedstocks by providing similar aggregation methods allowed for first generation feedstocks
   - Would enable more use of approved wood and MSW feedstocks

Jet fuel must be given equal treatment with first-generation fuel under the RFS:

1. Allow RIN generation to be calculated using a mass-balance approach for manufacturing and compliance of advanced and cellulosic renewable fuels

U.S. Military Has Demonstrated Fuels

Great Green Fleet, 2012

Advanced Biofuels Association