



Renewable Diesel

Renewable diesel is made from similar fats and oils as biodiesel; however, it uses a capital-intensive hydrotreatment process to remove metals as well as nitrogen and oxygen compounds. Since it's chemically identical to conventional diesel, it can be transported in existing pipelines and blended up to a 100% substitution in diesel-powered vehicles. Currently, it is most prominent in California due to the state's Low Carbon Fuel Standard (LCFS).

Things to Keep in Mind

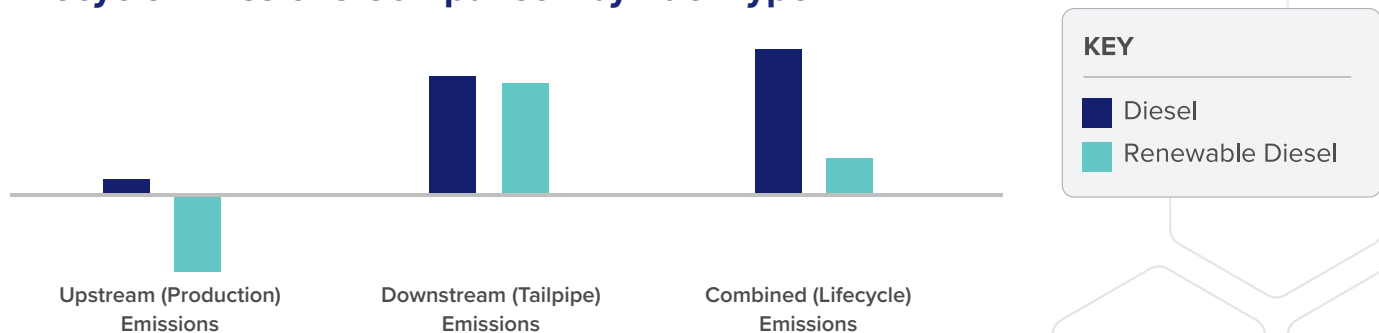
- 1 ENVIRONMENT**
Upstream emissions are advantageous while tailpipe emissions are similar to regular diesel.
- 2 COST**
Renewable diesel is very costly in geographies other than California where the LCFS program makes it economically viable compared to diesel.
- 3 TECHNOLOGY**
Since it's chemically identical to petroleum diesel, it can be used as a 100% replacement fuel in diesel vehicles without any equipment upgrades.
- 4 AVAILABILITY**
Renewable diesel is almost exclusively limited to California with nearly 600 fueling stations, but is beginning to expand into Oregon, Washington, Idaho, and Wyoming.

Environmental Impact

Renewable diesel has:

- Similar emissions as biodiesel—especially when it comes to tailpipe combustion.
- Slightly lower upstream carbon emissions than biodiesel.
- The exact chemical composition as diesel—allowing it to be used in warm and cold months without the fear of fuel gelling.

Lifecycle Emissions Comparison by Fuel Type



KEY

- Diesel
- Renewable Diesel

Supply & Production

Renewable diesel production surpassed biodiesel production for the first time in 2022. It is projected to continue to outpace biodiesel due to its compatibility with diesel engines, greater emissions reductions, and favorable government financial incentives.

Technology Availability

- School Bus
- Transit Bus
- Refuse Truck
- Delivery Van
- Medium-Duty Truck
- Heavy-Duty Short-Haul Truck
- Heavy-Duty Long-Haul Truck

Renewable Diesel Growth Factors

Compatibility with existing fueling infrastructure and diesel engines

Eligible to generate clean fuel credits in California, Oregon, Washington, and British Columbia

\$1.00/gallon biomass-based diesel blenders tax credit in the U.S.

Performance Comparison—Class 8 Trucking

Equipment	Range	Refuel	Fuel Efficiency
Diesel	1,000+ Miles	15 Minutes	—
Renewable Diesel	1,000+ Miles	15 Minutes	0-5% Reduction

Existing + Expected U.S. Renewable Diesel Production Capacity (Thousand Barrels/Day) *Source: EIA*

