



Renewable Diesel

Renewable diesel (RD) is a drop-in non-petroleum fuel that can be used without modifications in any diesel engine including production trucks and generators. RD can reduce the greenhouse gas emissions of your production and reduce air pollution on set, including particulate matter. Exhaust from diesel vehicles contains large amounts of particulate matter leading to hundreds of thousands of [premature deaths](#) throughout the world each year.¹ Additionally, a [Harvard study](#) found that a small increase in long-term exposure to particulate matter, often associated with diesel exhaust, led to an 8% increase in COVID-19 death rates.²

What is renewable diesel?

Renewable diesel is a paraffinic fuel made from renewable feedstocks. The most common method of producing RD is called “hydrotreating,” by which feedstocks such as vegetable oils or animal fats are reacted with hydrogen.

Renewable diesel is NOT Biodiesel.

Renewable diesel is a biofuel, but it is important to distinguish it from biodiesel. Although both fuels may share similar feedstocks, the end products are very different. RD is processed into a hydrocarbon whereas biodiesel is an ester. RD does not have issues with bacteria growth, cold temperatures, or increased maintenance as may be experienced with biodiesel.

What are the environmental benefits?

Life cycle carbon emissions (from the entire production process) are about [70% less](#) than fossil-based diesel.³ This reduction is largely due to feedstocks being mostly plant and animal waste products rather than crude oil. Tailpipe CO₂ emissions are only slightly lower for renewable diesel, but particulate matter can be reduced by one-third, when used in engines that are not equipped with particulate filter (DPF) technology. Other emissions benefits include reductions in the release of hydrocarbons, carbon monoxide (CO), nitrogen oxides (NOx), and polyaromatic hydrocarbons (PAH).

What equipment can use renewable diesel?

Renewable diesel meets ASTM D975 standards, the same standard for fossil-based diesel, and is safe to use in diesel engines powering trucks and generators without any modifications to the engine. It has been used in vehicles and generators by major studios in Los Angeles and is the primary diesel fuel for the city operations of Oakland, Long Beach, and Beverly Hills, as well as other cities and companies in California.

Can you blend renewable diesel with standard diesel?

Yes, renewable diesel is so chemically similar to fossil-based diesel that it can be used interchangeably. It is considered a drop-in fuel and is safe to use in diesel vehicles or generators at any ratio. Renewable diesel has an energy content 3-4% lower than standard diesel so the same volume provides slightly less energy.⁴ Compared to standard diesel, RD has a significantly higher cetane number and lower cloud point, which allows it to combust more easily and withstand colder temperatures.

Where is renewable diesel available?

Renewable diesel is currently available in Los Angeles (cost neutral) and in London (small premium). It has the potential to be available in New York City and Vancouver with industry demand. Logistical challenges include limited retail stations selling RD, requiring it to be purchased in bulk and delivered to a fuel tank. Ask your fuel supplier if they can provide renewable diesel. See list below for known current suppliers.

¹ Anenberg, Susan, et al. “A global snapshot of the air pollution-related health impacts of transportation sector emissions in 2010 and 2015.” *The International Council on Clean Transportation*, Feb. 26, 2019 <https://theicct.org/publications/health-impacts-transport-emissions-2010-2015>.

² Wu, Xiao, et al. “COVID-19 PM2.5.” *Harvard University*, Apr. 24, 2020 <https://projects.iq.harvard.edu/covid-pm>.

³ California Air Resources Board. “LCFS Pathway Certified Carbon Intensities” June 16, 2020 <https://ww2.arb.ca.gov/resources/documents/lcfs-pathway-certified-carbon-intensities>.

⁴ Gladstein, Neandross & Associates. (Aug 2017) “Renewable diesel as a major transportation fuel in California: Opportunities, Benefits and Challenges” https://www.gladstein.org/gna_whitepapers/renewable-diesel-as-a-major-transportation-fuel-in-california-opportunities-benefits-challenges/

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For more information, see [“Renewable Diesel as a Major Transportation Fuel in California: Opportunities, Benefits & Challenges”](#) prepared for the South Coast Air Quality Management District and Bay Area Air Quality Management District.

Renewable Diesel Suppliers

Renewable diesel typically isn't available at retail gas stations, but several fuel distributors can deliver it to trucks or owned tanks.

Los Angeles, California

SC Fuels <https://www.scfuels.com/>
TAC Energy <https://thearnoldcos.com/tac-energy>

United Kingdom

OnBio <https://onbio.co.uk/fuels/>
Barton Petroleum <https://bartonpetroleum.co.uk/>

Vancouver, British Columbia

Suncor/Petro-Canada <https://www.suncor.com/en-ca/about-us/products-and-services/petro-canada>

Phillips 66 | 76[®] Renewable Diesel

In California, all 76[®] stations currently supply 100% renewable diesel at their retail gas stations. Learn more about Phillips 66 and 76[®] Renewable Diesel [here](#), and find a 76[®] station [here](#).

See [Green Production Guide](#) for additional production guidelines and vendors or to complete a [vendor application](#) to be listed.