



The United States committed to **cut carbon emissions 50-52%** (compared to 2005 levels) by 2030. Nearly half of U.S. states and many cities have adopted similar goals. Meeting long-term goals to reach **net zero emissions by 2050** requires meeting these interim goals and achieving substantial carbon reductions today.

Source: White House. "FACT SHEET: President Biden Sets 2030 Greenhouse Gas Pollution Reduction Target." April 22, 2021; Center for Climate and Energy Solutions, "U.S. State Greenhouse Gas Emission Targets."



AFFORDABLE SOLUTIONS

Biodiesel and Renewable Diesel offer fleets **affordable, low-carbon solutions** to immediately improve the sustainability of their operations. These better, cleaner fuels are available now and work in existing or new diesel equipment to provide immediate carbon reductions.

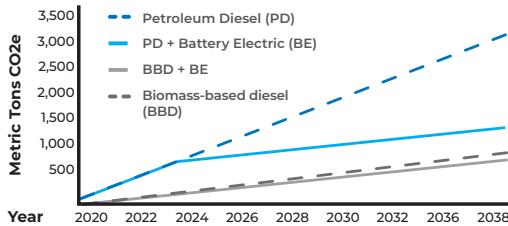
READY FOR USE TODAY

Biodiesel / Renewable Diesel are:



- Ready to use in any diesel vehicle, no special equipment required.
- Available nationwide.

Cumulative Greenhouse Gas Emissions by Fuel System



Source: Jenny Frank, Tristan Brown, Martin Haverly, Dave Slade, Robert Malmshheimer. Quantifying the comparative value of carbon abatement scenarios over different investment timing scenarios. Fuel Communications; Volume 8, 2021, 100017.

IMPROVEMENTS NOW AND IN THE FUTURE

Biomass-based diesel (BBD) offers immediate greenhouse gas emission (GHG) reductions. Investing in BBD in combination with Battery Electric (BE) technologies achieves the **greatest reductions in total GHG emissions over the next 20 years**. Both BBD and BBD + BE surpass the carbon reduction benefits of continuing to use Petroleum Diesel (PD) while waiting to transition to BE.

Scenario	Net Present Value (\$)	Carbon Impact (Mg CO2e)
PD	356,319	24,376
PD-BE	758,148	12,868
BBD	1,167,582	7,554
BBD-BE	1,168,619	5,913

HIGH VALUE, LOW CARBON IMPACT

Because biodiesel and renewable diesel are drop-in alternatives, fleets can achieve valuable carbon reductions **today** at a relatively low cost.

Source: Frank, J. et al. Quantifying and comparing the cumulative greenhouse gas emissions and financial viability of heavy-duty transportation pathways for the Northeastern, United States. Fuel, 323, 124243, Sep. 2022. <https://doi.org/10.1016/j.fuel.2022.124243>. See Table 4.

MEETING CARBON GOALS

States and cities already use clean fuels to meet carbon goals today.

Biodiesel and renewable diesel **currently meet 5-6% of U.S. on-road diesel demand**. In California, biodiesel and renewable diesel **meet 33% of the state's on-road diesel demand**. In Oregon, biodiesel and renewable diesel **meet 11.3% of the state's needs**. The industry has established a goal to double domestic production to 6 billion gallons by 2030, and we're well on our way to reaching that goal.

LOWERING CARBON NOW

California and Oregon have reduced carbon emissions by using biomass-based diesel:

Since 2011, California's BBD use has reduced the state's greenhouse gas emissions by 81.1 billion pounds.

BBD has generated more cumulative Low-Carbon Fuels Standard credits (42% of total since 2011) than any other transportation fuel.

In 2020, biodiesel and renewable diesel generated nearly half of the Oregon Clean Fuels Program's 1.3 million tons of carbon reductions.

Source: EPA Public Data for the Renewable Fuel Standard, <https://www.epa.gov/fuels-registration-reporting-and-compliance-help/public-data-renewable-fuel-standard>; California Air Resources Board, Low Carbon Fuel Standard Reporting Tool Quarterly Summaries, <https://ww2.arb.ca.gov/resources/documents/low-carbon-fuel-standard-reporting-tool-quarterly-summaries>; Oregon Dept of Environmental Quality, Oregon Clean Fuels Program, Quarterly Data Summaries, <https://www.oregon.gov/deq/ghgp/ctfp/Pages/Quarterly-Data-Summaries.aspx>.

Clean Fuels Alliance America is the U.S. trade association representing the entire biodiesel, renewable diesel and sustainable aviation fuel value chain, including producers, feedstock suppliers and fuel distributors. **Learn more at cleanfuels.org**

ABOUT BIODIESEL AND RENEWABLE DIESEL.



Made from plant-based oils, used cooking oils, and animal fats



Clean-burning



Can be used in any existing vehicle without modification



Commercially available nationwide



Today's solution for heavy-duty trucking, emergency vehicles, bus fleets, and farm equipment