



September 16, 2022

Maryland Commission on Climate Change  
Greenhouse Gas Mitigation Working Group  
1800 Washington Blvd.  
Baltimore, MD 21230

RE: Multi-State Medium- and Heavy-Duty Zero-Emission Vehicle Action Plan and Climate Change Commission Recommendations

Dear Working Group Members,

We are pleased to be given the opportunity to submit comments in anticipation of your upcoming meeting that will focus, among other items, on decarbonizing medium- and heavy-duty vehicles.

Clean Fuels Alliance America serves as the clean fuel industry's primary organization for technical, environmental and quality assurance programs and is the strongest voice for its advocacy, communications and market development. Clean Fuels members play an important role in state and national programs aimed at reducing carbon emissions, displacing petroleum, improving public health and protecting the environment. Many Clean Fuels members are members of environmental organizations and are supportive of state and local initiatives to achieve a sustainable energy future.

Made from an increasingly diverse mix of resources such as recycled cooking oil, soybean oil and animal fats, biodiesel and renewable diesel are better, cleaner fuels that are available now for use in existing diesel without modification. Nationwide, some 3 billion gallons was consumed last year and we project use will exceed six billion gallons by 2030, eliminating over 35 million metric tons of CO2 equivalent greenhouse gas emissions annually. With advancements in feedstock, use will reach 15 billion gallons by 2050.

Currently, over a third of all on-road diesel fuel sold in California is a combination of renewable diesel and biodiesel. During the first quarter of this year, that number was over 40 percent, making RD and BD the largest generator of credits under that state's Low Carbon Fuel Standard (LCFS) program.

Full electrification, particularly in the hard-to-decarbonize sectors such as medium and heavy-duty trucking, cannot realistically be the only greenhouse reduction pathway, particularly given

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the timeframe which it will take to convert the large number medium and heavy-duty trucking fleets and install suitable charging infrastructure. In the meantime, biodiesel blends up to 20 percent and renewable diesel blends of up to 100 percent have already been certified by ASTM and OEM's – making BD and RD and BD/RD blends a viable choice in fuel that will contribute immediately to carbon reductions. In addition, OEM's have made tremendous progress in certifying higher biodiesel blends, enabling the transportation sector to achieve even greater immediate carbon reductions. The California experience has shown that biomass-based diesel use, particularly in short haul, closed route, return-to-base applications like drayage, transit buses and waste haulers, can be a viable and important pathway to achieve greenhouse gas reductions. In addition, a number of government fleets are current using B100, which includes snowplow and trash applications.

Simply put, reducing carbon emissions now is more valuable than reducing the same amount of emissions later. It's the same principle we learned in high school: a dollar invested now is worth more than a dollar invested 20 years from now. This is because earlier reductions limit the long-term climate impact caused by the accumulation of greenhouse gases. This significant and often overlooked principal is frequently absent from policy discussions, which, for example, treat a reduction of CO<sub>2</sub> in 2022 with the same weight as a reduction in 2050. This is simply not accurate and skews the market to seek low-technology readiness options which may not be deployed for years or decades, if ever at all.

In addition, both the federal Renewable Fuel Standard<sup>1</sup> and California's Low Carbon Fuel Standard<sup>2</sup> measure biofuels' greenhouse gas impact and carbon reduction benefits on a life cycle basis including direct and *significant* indirect emissions, such as those from potential indirect land use change. This allows any carbon reduction program (like an LCFS) to have confidence that the biofuels delivered into the state generate real, meaningful climate benefits compared to petroleum-based fuels.

We understand equity and affordability are important aspects of the Maryland Climate Solutions Now Act. To better characterize the health benefits biodiesel can generate in local communities which switch from petroleum-based diesel, Clean Fuels commissioned a study by Trinity Consultants, a globally renowned air quality modeling firm which specializes in air dispersion modeling. Their work, which is published online, characterizes the benefits of these fuels much more granularly, allowing decision makers to understand where the benefits of reduced particulate matter and improved health outcomes, would occur and to whom. The results demonstrate that the use of B100 as a petroleum-based diesel fuel replacement reduces carcinogenic, diesel particulate matter emissions by 86%. These dramatic reductions can lead to significant health benefits in the form of reduced asthma attacks, avoided work loss days, and reduced cancer risk. This is of particular value to EJ communities which bear a disproportionate burden from the adverse health effects of petroleum-based diesel fuel. And, perhaps most

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<sup>1</sup> [Energy Independence and Security Act, Sec 201 \(1\)\(H\)](#)

<sup>2</sup> [Section 95481 \(a\)\(88\)](#)

importantly, these health benefits can occur with NO additional investments for either retailers or truck owners.

While we agree with many of the conclusions of the NESCAUM Multi-State Medium- and Heavy-Duty Zero-Emission Vehicle Action Plan, we believe it is important for Maryland to take additional steps like California has done. The expanded use of natural gas and biofuels can deliver important GHG reductions in the near term and continue to meet the operational needs of the trucking industry without the major infrastructure investments that other fuel sources require. Likewise, accelerating the turnover of the oldest vehicles in the existing fleet to the newer generation of advanced diesel technology can provide immediate emissions reductions at far lower cost.

Market-based programs like California's Low Carbon Fuel Standard and Oregon's Clean Fuels Program (CFP) illustrate how smartly designed carbon reduction policies can minimize impacts to the trucking industry by focusing on reducing lifecycle GHG emissions from the fuels used in vehicles. Such programs help states achieve their aggressive carbon policies while they are pursuing electrification across multiple sectors, which by nearly all accounts will require many years, if not decades, in hard-to-electrify sectors such as medium/heavy duty on- and off-road vehicles, marine, and rail.

**As mentioned above, under the LCFS' strong carbon price signal, biomass-based diesel (biodiesel and renewable diesel) consumption in California has grown from 14 million gallons in 2011 to 1.23 billion gallons in 2021, comprising fully a third (33%) of that state's entire diesel fuel market (44% in Q1 2022).**<sup>3</sup> These drop-in biomass-based fuels provide immediate GHG and co-pollutant benefits, reducing GHGs by 74% on average relative to petroleum diesel (up to nearly 90%, depending on the feedstock) and particulate matter (PM) by up to 50% in older, legacy vehicles (which also benefits newer, DPF-equipped trucks by reducing particle loading and filter regeneration cycles)<sup>4</sup>.

And just as importantly, according to Department of Energy data<sup>5</sup>, these biomass-based fuels are selling competitively at the pump relative to petroleum diesel on the West Coast, selling at 65 cents (for 20% biodiesel blend) to 91 cents (for 100% biodiesel) per gallon on average below petroleum diesel. Renewable diesel has been reported as selling at 9 cents per gallon below petroleum diesel at the pump.

In conclusion, Clean Fuels believes that biodiesel and renewable diesel should be identified as a viable pathway in the upcoming subcommittee recommendations, and we look forward to working with you and Department of the Environment staff and other applicable agencies in the development and implementation of this pathway.

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<sup>3</sup> [LCFS Quarterly Data Summary](#), California Air Resources Board, July 2022.

<sup>4</sup> [Biodiesel and Renewable Diesel 1-Pager](#), Clean Fuels Alliance America, 2022.

<sup>5</sup> [Department of Energy, Clean Cities Alternative Fuel Price Report](#), April 2022, at 16-20.

Sincerely,

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