



**Joint Legislative Budget Hearing on Transportation
New York State FY2023 Executive Budget Proposal
February 15, 2022**

**Submitted by:
Floyd Vergara, Esq., P.E.
Director of State Government Affairs
Clean Fuels Alliance America**

Chairs Krueger, Weinstein, Kennedy and Magnarelli and other members of the Senate Finance and Assembly Ways & Means Committees and the Senate and Assembly Transportation Committees, thank you for the opportunity to provide testimony on behalf of the home heating industry in New York City and New York State.

My name is Floyd Vergara, Director of State Government Affairs for Clean Fuels Alliance America (Clean Fuels, formerly National Biodiesel Board), the national trade association for the domestic producers of biodiesel, renewable diesel, and sustainable aviation fuel. Clean Fuels members play an important role in 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.

Today's testimony will address the importance of liquid renewable biofuels in helping New York State achieve its climate change goals pursuant to the state budget actions and the Climate Leadership and Community Protection Act (CLCPA).

One such fuel is biodiesel, a renewable, low carbon replacement for petroleum diesel fuel and heating oil, made from used cooking oil, animal fats, brown (sewer) grease, and agricultural byproducts or co-products. Biodiesel reduces lifecycle greenhouse gases on average 74% - 80%, while also significantly reducing harmful criteria pollutant created from the combustion of petroleum. These are pollutants that have been shown to lead to chronic health effects, especially in urban communities, and I will address the health impacts of later.

Missouri Headquarters
605 Clark Ave
PO Box 104898
Jefferson City, MO 65110

800.841.5849

Washington, D.C., Office
1331 Pennsylvania Ave, NW
Suite 505
Washington, DC 20004

888.246.3437

California Office
1415 L Street
Suite 460
Sacramento, CA 95814

916.760.8870

Massachusetts Office
36 Jonspin Road
Suite 235
Wilmington, MA 01887

978.267.3020

Emissions Improvements of Biodiesel versus Low Sulfur (LS) and Ultra Low Sulfur (ULS) Heating Oil^{1, 2, 3, 4, 5}

Average Change	PAH	PM	CO	NO _x	SO ₂	CO ₂
Percent	-90 to -95%	86%	Similar to -15%	Similar to -25%	-98% (LS) Similar (ULS)	-73%

Note: PAH-Polycyclic Aromatic Hydrocarbons; PM-Particulate Matter; CO-Carbon Monoxide; NO_x-Nitrogen Oxides; SO₂-Sulfur Dioxide; CO₂-Carbon Dioxide

Clean Fuels is a member of the Clean Fuels NY coalition, and we urge Governor Kathy Hochul and the State Legislature to include a Clean Fuel Standard for the medium and heavy-duty transportation sector, as is proposed by Senator Parker and Assembly Member Woerner in S.2962/A.862.

A Clean Fuel Standard will assist New York State meet its carbon reduction goals as specified in the CLCPA and help transform the transportation section by decarbonizing medium and heavy-duty truck and investing in electric transportation options for public and private transportation.

Clean Fuel Standards Have Been Very Successful in California and Oregon.

A Clean Fuel Standard, also known as a low carbon fuel standard (LCFS), is a technology-neutral, performance-based standard that requires fuel manufacturers and importers to reduce the lifecycle greenhouse gas (GHG) emissions associated with the fuels they make and sell. These requirements have been in place since 2011 in California and 2016 in Oregon and have reduced GHG emissions in those states by 98 million metric tons combined to date. It is one of the single most effective GHG reduction policies in either state, yielding not only carbon reductions, but also transforming the transportation fuel pool, increasing energy security, and reducing health-impactful air pollution.

Consumers Have Not Experienced Significant Cost Impacts at the Pump.

As we face an unprecedented health and budget crisis, a Clean Fuel Standard would allow New York to improve air quality and clean up the transportation sector at cost parity with conventional gasoline and diesel. Retail pump prices for gasoline and diesel compiled by the U.S. Energy Information Agency show California pump prices in 2019 were at or below 2011 prices, for both

¹ Macor, A., Pavanello, P., Performance and Emissions of Biodiesel in a Boiler for Residential Heating, *Energy*, vol. 34, 2009.C

² Krishna, C.R., Biodiesel Blends in Space Heating Equipment, Brookhaven National Laboratory, 2001.

³ USDA/DOE 1998, Life Cycle Inventory of Biodiesel and Petroleum Diesel for Use in an Urban Bus.

⁴ Lee, S. Win, He, I., Heritage, T., Young B., Laboratory Investigations on the Cold Temperature Combustion and Emissions Performance of Biofuels Blends, 2003.

⁵ https://www.edf.org/sites/default/files/10071_EDF_BottomBarrel_Ch3.pdf at 5. Studies cited showed PM reduction proportional to biodiesel content (e.g., 20% reduction for B20 blend, 50% reduction for B50 blend). To be conservative, NBB estimates the PM reduction from using B100 would be approximately 86%

gasoline and diesel, after nearly 10 years of the LCFS program operating in California. In fact, biodiesel prices (reported for 20% biodiesel blend or B20) on the West Coast were on average 51 cents per gallon less than conventional diesel (as of January 2020).

A Clean Fuel Standard is Good for the Economy, Environment, and Public Health.

Adopting a Clean Fuel Standard in New York will send strong market signals to producers of biodiesel and renewable diesel (collectively called "biomass-based diesel") that the state is open for the renewable liquid fuels business.

Economic Impacts

Under California's LCFS, biomass-based diesel volumes grew from 14 million gallons in 2011 to 860 million gallons in 2020, a 61-fold increase. Indeed, biomass-based diesel has already grown to over 880 million gallons in just the first three quarters of 2021 and is projected to be over 1 billion gallons for 2021 as a whole. These sustainable diesel replacements currently comprise about 27% of the California onroad diesel fuel pool, according to CARB. They have generated 45% of the carbon reductions in the CA LCFS program during 2018-2020 and 42% overall to date. Since its adoption of the LCFS, California has seen the development of nine biodiesel facilities and one renewable diesel production plant, supporting 4,400 full-time jobs and \$156 million in wages. Overall, the CA LCFS has created 38,000 jobs. And the CA LCFS has been cited as directly contributing to recent announcements by several petroleum refiners to convert traditional refineries to renewable diesel production.

Environmental & Health Benefits

These economic benefits have been accompanied by substantial environmental and public health benefits. Unlike petroleum diesel, which adds large amounts of new carbon into the atmosphere, biomass-based diesel is made from waste and by-product fats and oils, thereby reducing GHG emissions by 80% or more (74% on average). Further, biomass-based diesel can reduce particulate matter (PM) by nearly 80%, carbon monoxide by over 40%, and other noxious pollutants by significant levels. And since these are drop-in fuels, biomass-based diesel can produce environmental benefits immediately upon use.

Moreover, disadvantaged and environmental justice communities are often located near or around high diesel-use activities, such as ports and railyards. Replacing petroleum diesel with biomass-based diesel substantially reduces diesel PM emissions, which in turn provides immediate public health benefits in the form of avoided cancers, deaths, hospitalizations, and asthma incidents (because diesel PM is a known air toxicant).

A Clean Fuel Standard is a critical tool in reducing air pollutants which contribute to significant public health issues, including asthma and other respiratory and cardiovascular diseases that are linked to more severe cases of coronavirus. According to the American Lung Association's

annual State of the Air Report, more than 50 percent of New Yorkers live in areas with failing air quality and the greater New York City metropolitan region is consistently ranked in the top 10 cities with the worst air quality in the country.

A census tract-based study by Trinity Consulting⁶, a multi-national air dispersion modeling company with offices in 69 countries, shows that 100% biodiesel use reduced cancer risk by up to 85%, as well as reduced incidences of Asthma, premature deaths, restricted activity days and workdays.

The Trinity Study results for replacing petroleum diesel with biodiesel in transportation vehicles in the Port of New York & New Jersey (Port Elizabeth) census tract (and the surrounding five-mile radius) show 2,516 fewer cases of cancer over a 70-year timeframe. For non-cancer benefits, the Trinity Study shows that, annually, 74,862 fewer Asthma attacks and treatments, 116 fewer premature deaths, 194,804 fewer minor restricted activity days, and 33,296 fewer lost workdays, for an avoided health care costs totaling close to \$1 billion – actual \$955,737,499 per year, which could be achieved through substitution of biodiesel for petroleum diesel.

A Clean Fuel Standard can also enable the complete displacement of petroleum diesel used by fleet operators. Existing fleet managers can convert their fuel consumption to 100% renewable fuel simply by purchasing and using a blend of 80% renewable diesel and 20% biodiesel (R80/B20), which would result in environmental and public health benefits similar to those noted above without any use of petroleum diesel.

Conclusions.

Transportation is a major contributor to New York's GHG emissions—approximately 35 percent and growing. Cars and trucks, which rely overwhelmingly on petroleum-based fuels, represent a significant portion of New York's harmful air pollution. By requiring high polluting transportation fuel providers to purchase credits from low carbon fuel suppliers, the state can reduce greenhouse gas emissions and improve air quality, while creating in-state jobs, supporting regional economic development, and reducing out-of-state payments.

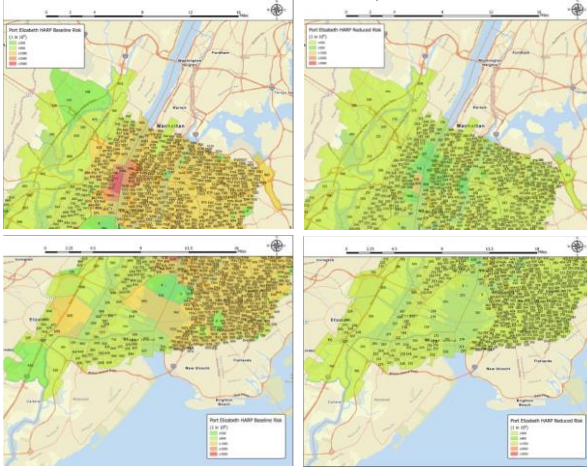
A Clean Fuel Standard is a proven solution to reduce transportation emissions. It has worked in California, Oregon and British Columbia (Canada), and has recently been adopted in the Washington state. It's time for New York to take the lead role in the East Coast states by adopting a Clean Fuel Standard.

Thank you.

⁶ <https://www.biodiesel.org/news-resources/health-benefits-study>

B100 BENEFITS: PORT ELIZABETH (NY/NJ) – PORT

Cancer Risk Pre/Post-Switch to B100 (Up to 2516 fewer cases)



Value of Health Benefits from using Biodiesel at the Port of New York and New Jersey (Per Year)		
Health Impact Endpoint	Reduced Incidence	Benefit Value
Acute Myocardial Infarction Nonfatal	480.2	\$15,115,170
Asthma Symptoms: Albuterol use	74,287.6	\$25,673
ER visits All Cardiac Outcomes	56.8	\$65,966
ER visits respiratory	156.0	\$136,416
HA All Respiratory	24.1	\$359,484
HA Alzheimers Disease	96.6	\$1,191,555
HA Cardio- Cerebro- and Peripheral Vascular Disease	25.6	\$401,042
HA Parkinsons Disease	15.1	\$195,970
HA Respiratory-2	3.4	\$0
HA Respiratory-2 HA All Respiratory	27.5	\$0
Incidence Asthma	574.6	\$25,658,684
Incidence Hay Fever/Rhinitis	3,548.1	\$2,128,554
Incidence Lung Cancer	29.0	\$364,106
Incidence Out of Hospital Cardiac Arrest	3.5	\$124,068
Incidence Stroke	11.4	\$388,636
Minor Restricted Activity Days	193,804.5	\$13,485,269
Mortality All Cause	116.5	\$919,216,623
Work Loss Days	33,296.2	\$6,880,283
Total		\$985,737,499





BIODIESEL + RENEWABLE DIESEL

Better Together

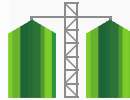


BIODIESEL & RENEWABLE DIESEL

are low-carbon diesel-replacement fuels produced from renewable feedstocks such as used cooking oil, animal fats, inedible corn oil, soybean oil and canola oil.

B BIODIESEL IS...

Produced through esterification or transesterification, a simple process that reacts a fat or oil with a small amount of alcohol (typically methanol) to produce a finished fuel.



RD RENEWABLE DIESEL IS...

Produced through hydrotreating, a process similar to a traditional refinery operation. This high-heat, high-pressure process produces a fuel that is chemically indistinguishable from conventional diesel.

A "drop-in" fuel that can be used in all engines and equipment up to 20% and many up to 100%.



A "drop-in" fuel that can be used in all engines and equipment up to 100%.

Non-toxic, biodegradable, ultra-low sulfur and 0% aromatics.



Ultra-low sulfur and 0% aromatics.

Better for engines due to higher cetane and improved lubricity.



Better for engines due to higher cetane.

Made to meet the requirements of ASTM D975 (B5), D7467 (B6-B20), and D6751 (B100).



Made to meet the requirements of ASTM D975 (all blends).



THE BEST FUEL IS...

A combination of biodiesel and renewable diesel produces a cost-effective full replacement option for petroleum diesel. As a paired fuel, biodiesel and renewable diesel optimize petroleum displacement and cost, as well as particulate matter, carbon and nitrogen oxide reductions.



Up to 79% less carbon emissions.



Up to 79% less carbon emissions.

29% particulate matter reduction.



56% particulate matter reduction.

39% fewer aromatic compounds.



53% fewer aromatic compounds.

23% less carbon monoxide.



30% less carbon monoxide.

9% NOx reduction.



6% NOx reduction.



ABOUT BIODIESEL AND RENEWABLE DIESEL

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

Clean-burning ultra-low carbon

Can be used in any diesel engine without modification

Commercially available nationwide

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

Sources: Impact of biodiesel and renewable diesel on emissions of regulated pollutants and greenhouse gases on a 2000 heavy duty diesel truck, California Air Resources Board, 2015; Effects of biodiesel blends on emissions, National Renewable Energy Laboratory, 2006.

nbb.org
biodiesel.org
mybioheat.com

DC 1331 Pennsylvania Ave., NW
Suite 505
Washington, DC 20004
888-246-3437

MO 605 Clark Avenue
PO Box 104898
Jefferson City, MO 65110-4898
800-841-5849

CA 1415 L Street
Suite 460
Sacramento, CA 95814
916-760-8870