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**“Renewable Liquid Fuel-ipedia”
September 2019**

***Below is a list of terms & definitions commonly used in discussion of climate change issue and renewable fuels. It is by no means a complete list, but you may find it useful.***

**Adaptation –** Actions that helps cope with or prepare for the effects of climate change. You will often hear talk of the need to not only take action to prevent climate change, but also to adapt to its worst, if not unavoidable, effects.

**Advanced Biofuels –** A renewable fuel other than ethanol derived from cornstarch. Biodiesel is the only advanced biofuel that has reached nationwide commercial production across the United States. The advanced biofuel category can apply to a variety of fuels, including biomass-based diesel (including biodiesel and renewable diesel), biogas, butanol or other alcohols and fuels derived from cellulosic biomass. Advanced biofuels reduce lifecycle emissions by more than 50 percent compared to petroleum and are the optimal alternative fuel as defined by federal law.

**Advanced Biofuels Association (ABFA) – Trade association representing the advanced biofuels industry, including U.S. and foreign producers of biodiesel, renewable diesel, cellulosic biofuels, and other renewable fuels.**

**Alternative Energy Credit (AEC) –** Typically refers to a market-based instrument that represents the property rights to the environmental, social, or other non-power attributes of alternative electricity generation. One (1) AEC is issued when one MWh of electricity is generated and delivered to the electricity grid from an alternative resource. AECs are usually bought, sold, and traded under a state or regional renewable portfolio standard (RPS) and alternative portfolio standard (RPS) programs.

**Alternative Fuel –** Any fuel not derived from the conventional crude oil refining process, including biodiesel or ethanol. ASTM Standards – All engines are designed and manufactured for a fuel that has certain characteristics. In the US, the global standards development organization that defines the specifications and test methods for fuels is the ASTM International. ASTM fuel standards are the minimum accepted values for properties of the fuel to provide adequate engine performance. Biodiesel – Technical: a fuel comprised of mono-alkyl esters of long chain fatty acids derived from vegetable oils or animal fats, designated B100, and meeting the requirements of ASTM D 6751.

**Alternative Portfolio Standard (APS) -** A program created to compliment the RPS that requires the increased production electricity from alternative energy sources.

**ASTM D3699 –** The ASTM standard specification for kerosene fuel oils for use in critical kerosene burner applications.

**ASTM D396 –** The ASTM standard specification for fuel oils intended for use in various types for fuel-oil burning equipment.

**ASTM D6751 –** The ASTM standard specification for pure biodiesel fuel blend stock (B100).

**ASTM D7467 –** The ASTM standard for diesel fuel oil (D975) and biodiesel blend (B6 to B20).

**ASTM D975 –** The ASTM standard specification for diesel fuel oils for use in various types of diesel engines.

**ASTM International (Formerly the *American Society for Testing and Materials*) -** Organized in 1898, ASTM International is one of the world's largest international standards developing organizations. It currently has 12,575 members from 140 countries and sets standards for materials, products, systems, and services.

**B100 –** Biodiesel in its pure form. Soy based biodiesel

**B20 –** A blend of 20% biodiesel and 80% ultra-low sulfur diesel heating oil.

**B5 –** A blend of 5% biodiesel and 95% ultra-low sulfur diesel heating oil.

**B50 –** A blend of 50% biodiesel and 50% ultra-low sulfur diesel heating oil. A 40% reduction in greenhouse gas emissions can be achieved if residential heating oil customers utilize a B50 (50% biodiesel blended with 50% ultra-low sulfur diesel heating oil) vs. a 100% ultra-low sulfur diesel heating oil. That is equal to the target GHG reduction for 2030 under the Paris Climate Accord and many state climate change policies.

**B99 –** A blend of 99.9% biodiesel and 0.1% ultra-low sulfur diesel heating oil. Suppliers chose to sell this product to distributors instead of a B100 so that they will receive the blenders tax credit.

**Baseline –** Also referred-to as “baseline climate emissions” or “baseline emissions,” a reference point in time against which emissions reductions in the future are measured. 1990 and 2005 are the most commonly-used baselines for U.S. greenhouse gas reduction policies.

**Biodiesel - A biofuel produced from a renewable biomass, typically virgin and waste vegetable oils including soybean oil and used cooking oil and rendered animal fats. Biodiesel is blended with petroleum diesel to create a biodiesel blend. Biodiesel is the first fuel commercially produced nationwide that meets US EPA’s definition of an advanced biofuel. Synonyms include methyl esters and fatty acid methyl esters (FAME).**

**Biodiesel Blends –** A blend of biodiesel fuel, meeting ASTM D 6751, with diesel fuel oils, designated BXX, where XX represents the volume percentage of biodiesel fuel in the blend. Examples include: B5 (5% biodiesel), B20 (20% biodiesel), and B100 (100% biodiesel). Similar abbreviations are used for other fuel blends, such as “E” for ethanol.

**BioFine -** Trademarked processing company and product that is a cellulose chemical process resulting in EL - Ethyl Levulinate (EL)

**Biofuel –** Broad term that encompasses any liquid fuel made from renewable biomass. The most common types of biofuels in use today are ethanol, biodiesel, and renewable hydrocarbon diesel.

**Biogas –** Gas produced by organic matter and byproducts including agricultural waste, plant material, or food waste.

**Bioheat® -** A traditional home heating oil blended with 2-5% biodiesel. It is a registered trademark of the National Biodiesel Board.

**Bioheat Plus® -** A traditional home heating oil blended with 6-20% biodiesel. It is a registered trademark of the National Biodiesel Board.

**Bioheat Super Plus® -** A traditional home heating oil blended with greater than 20% biodiesel. It is a registered trademark of the National Biodiesel Board.

**Biomass –** Organic matter such as plants, agricultural products, or animal byproducts that are used as a fuel or as a feedstock to produce renewable fuels.

**Biomass-Based Diesel –** A category of diesel fuel derived from biological feedstocks, including soybean oil, rendered animal fats and used cooking oils, that can be used to comply with the federal Renewable Fuel Standard program. Examples include biodiesel and renewable diesel.

**Biorefinery –** A facility that converts biomass to biofuels and other beneficial byproducts, just as a petroleum refinery converts crude oil into gasoline, diesel fuel, heating oil, and petroleum byproducts.

**BQ-9000** - The National Biodiesel Accreditation Program is a cooperative and voluntary program for the accreditation of producers and marketers of biodiesel fuel called BQ-9000®. The program is a unique combination of the ASTM standard for biodiesel, ASTM D6751, and a quality systems program that includes storage, sampling, testing, blending, shipping, distribution, and fuel management practices. BQ-9000® is open to any biodiesel manufacturer, marketer or distributor of biodiesel and biodiesel blends in the United States and Canada.

**Business as usual –** A scenario in which no change is made, or action taken, to curb emissions.

**Butanol –** A four carbon alcohol produced from fermentable sugars, synthesis gas, and glycerol. It is most commonly used as a fuel additive.

**Byproducts –** A secondary product made in the manufacture or synthesis of something else. Biodiesel is a renewable fuel made from agricultural byproducts such as soybean oil, animal fats, and recycled cooking oil. In addition, glycerin is a co-product of biodiesel production and is often used as an animal food ingredient.

**California Low Carbon Fuels Standard (LCFS)** – The California Low Carbon Fuel Standard is a program designed to reduce greenhouse gas emissions in the transportation sector with the goal of reducing the carbon intensity of the transportation fuel pool by 10% by 2020. Sometimes referred-to using as CARB, the name of the state agency responsible for overseeing the LCFS regulations - California Air Resources Board.

**Cap-and-Invest** – A policy proposal that imposes a limit, or cap, on total emissions of greenhouse gases that a regulated entity is allowed to emit. A limited number of allowances for emission are created by the regulatory authority. Rather than distributed free to regulated entities, these allowances are sold or auctioned-off by authorities and the revenue is reinvested into the development and deployment of clean energy technologies, low income energy assistance, “green collar” job training, etc.

**Cap-and-Trade –** A policy proposal that aims to reduce emissions by means of a market-based emissions trading market. Under such a proposal, regulated entities can buy or sell allowances to emit greenhouse gases via an exchange. The volume of allowances issued adds up to the limit, or cap, imposed under the cap-and-trade law or regulation. These caps are reduced over time to reduce emissions. Also may be referred-to as “Emissions Trading Scheme” (ETS).

**CARB** – Reference to the California Air Resources Board which oversees the state’s low carbon fuels standard (LCFS) and other climate policies and related regulations.

**Carbon Dioxide (CO2) –** Classified as a “greenhouse gas,” carbon dioxide is a colorless, odorless gas that is produced by burning carbon and organic compounds and by respiration. It is naturally present in the air, averaging between 0.02-0.03% or 200-300 parts-per-million (ppm) for most of human history. The National Oceanic & Atmospheric Administration recorded an all-time high of 415ppm on May 2019. Estimates are that CO2 concentrations are increasing by an average of 2-3ppm per year. Carbon Dioxide emissions cause increases in atmospheric concentrations that last for thousands of years.

**Carbon Dioxide Equivalent (CO2e) –** A measure of the equivalent global warming potential as carbon dioxide for other greenhouse gases such as methane (i.e., natural gas), nitrous oxide, and other gases.

**Carbon Footprint –** The total amount of carbon dioxide or other greenhouse gases produced or emitted directly or indirectly to support the activities of a person, place, or thing. It is usually expressed in equivalent tons or carbon. May also be referred to as greenhouse gas or GHG footprint.

**Carbon pricing –** The process of creating an economic value for carbon and other greenhouse gas emissions. This is usually done to establish a price for the purpose of a carbon tax or trading allowance.

**Cellulosic biofuel –** Any renewable liquid fuel derived from cellulose, hemicellulose or lignin that is derived from renewable biomass. Cellulose, by definition, is an insoluble substance which is the main constituent of plant cell walls and of vegetable fibers such as cotton.

**Clean Fleet –** A group of vehicles of a municipality, organization, or community that use cleaner than traditional technologies to power their engines. Many clean fleets are powered with biodiesel to produce healthier, cleaner air.

**Cradle-to-grave emissions–** Sometimes used synonymously with “lifecycle,” it refers to total emissions during the life of an energy source or fuel, such as natural gas, petroleum, or renewable fuel, from point-of-production to end-use.

**Deforestation – The natural and human-driven removal or destruction of forests and rainforests. In addition to greenhouse gas emissions, deforestation is often cited as a major contributor to climate change because trees and other plants absorb carbon dioxide.**

**Emissions Trading Scheme (ETS) –** See Cap-and-Trade, above.

**Ethanol –** A renewable, domestically produced fuel made from corn, sugar cane, or grasses. Ethanol is a fuel alternative to conventional gasoline that is most commonly sold to consumers as a 10-15 percent blend in gasoline but can be used in higher blends in flex-fuel vehicles. Ethanol is not biodiesel, nor is it suitable as a distillate substitute, but it is considered another renewable fuel or biofuel.

**Ethyl levulinate (EL) –** MIKE CASSATA TO SEND

**Federal Biodiesel & Renewable Diesel Tax Credit (IRC Section 40A) –** A federal tax credit created by Congress in 2005 that offers qualified producers and blenders $1 per gallon of fuel that is blended with biodiesel or renewable diesel. The tax credit is one of several temporary tax breaks that frequently expire and have to be renewed, known in Congress as “tax extenders.’” The biodiesel and renewable diesel tax credit last expired on December 31, 2017.

**Feedstocks –** A common industry term to describe the raw input materials used to supply biodiesel and other biofuel production. Biodiesel producers are utilizing a wide-ranging mix of feedstocks, such as recycled cooking oil, agricultural oils such as soybean and canola oil, animal fats, and other byproducts such as distillers corn oil. Soybean oil remains the most commonly used feedstock with nearly 50 percent market share.

**Food vs. Fuel –** The myth that biofuels derived from virgin plant feedstocks divert agricultural production away from food crops and cause an increase in food prices. This is not the case with biodiesel. Soybeans produce both food AND fuel. Consider that protein is essential source of nutrition for humans, but it is expensive. Because biodiesel production only uses the oils (fat), the protein (meal portion of the bean) is produced at a lower cost than average protein sources on the market.

**Global Warming Potential (GWP) – A measure of how much energy the emissions of one ton of a gas will absorb over a given period of time, relative to the emissions of one ton of carbon dioxide (CO2). The larger the GWP, the more that a given gas warms the Earth compared to CO2 over that time period. The time period usually used for GWPs is 100 years. Carbon Dioxide (CO2) by definition, has a GWP of 1 regardless of the time period used, because it is the gas being used as the reference. Methane (CH4) is estimated to have a GWP of 28–36 times CO2 over 100 years because it is sort-lived (9-10 years) but has an 84-87 GWP over 20 years. Nitrous Oxide (N2O) has a GWP 265–298 times that of CO2 for a 100-year timescale, which is just about how long it stays in the atmosphere. Chlorofluorocarbons (CFCs), hydrofluorocarbons (HFCs), hydrochlorofluorocarbons (HCFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF6) are high-GWP gases because, for a given amount of mass, they trap substantially more heat than CO2. The GWPs for these gases can be in the thousands or tens of thousands.**

**Green New Deal (GND) –** A term that purposefully takes from Franklin Delano Roosevelt's original “New Deal” in the 1930s. “Green New Deal” proposals have been offered by various climate change activists, environmental organizations, and policymakers at the state and federal level. They typically propose a “war-time like” mobilization government, industry, and workforce in order to completely decarbonize all sectors of the economy by a certain year. Most commonly, this would be achieved by 2050, although more aggressive dates have been proposed.

**Greenhouse Effect – The warming of the surface and lower atmosphere of a planet (such as Earth or Venus) that is caused by conversion of solar radiation into heat in a process involving selective transmission of short wave solar radiation by the atmosphere, its absorption by the planet's surface, and reradiation as infrared which is absorbed and partly reradiated back to the surface by atmospheric gases.**

**Greenhouse Gas – Any gaseous compounds (such as carbon dioxide and methane) that absorbs infrared radiation, traps heat in the atmosphere, and contributes to the greenhouse effect. Some gasses have a more potent greenhouse effect than others, which is measured by Global Warming Potential (GWP). Carbon is always used as the baseline for valuating GWP and is equal to one GWP.**

**Greenhouse Gases Emissions –** The release of any gaseous compound that traps heat in the atmosphere, a phenomenon referred-to as the “greenhouse effect.” 9 (CO2) makes up the majority of GHG emissions, although other forms of emissions such as methane are more potent in terms of their greenhouse effect.

**Indirect Land Use Change – A now disproven theory from the late 2000’s that tried to tie indirect effects of US agriculture to changes in land use around the world – specifically in the rainforests of South America. No crops are grown for exclusively for biodiesel production, so it doesn’t lead to the clearing of the land in other parts of the world. Biodiesel is the first commercially available fuel to meet the EPA’s definition of an advanced biofuel. The environmental requirements of the RFS protect forests and native grasslands and ensure renewable fuels have multiple environmental benefits over fossil fuels.**

**Life-cycle greenhouse gas emissions–** More commonly used than “cradle-to-grave” emissions and is often referred-to as “full life-cycle.” Refers to a measurement of the total global warming potential of an energy source.

**Lignocellulosic biofuel –** Biofuels derived from dry plant matter (e.g., solid biomass) harvested from nature or from a product or byproduct of forestry and agriculture. Examples of virgin biomass include trees, leaves, shrubs, and grass. Waste biomass includes saw and paper mill discards, wood, straw, and municipal solid waste. It is the most abundant raw material on Earth for the production of biofuels.

**Low Carbon Fuel Standard (LCFS) –** A law, regulation, or policy proposal that aims to reduce the overall carbon intensity of a gallon of liquid fuel as compared to conventional petroleum fuels, such as gasoline, diesel fuel, or home heating oil.

**Methane (CH4) –** Methane is a colorless, odorless, and highly flammable gas and the primary component of natural gas. It is naturally occurring in abundance on the Earth, and for this reason is sought after as a fuel. It is also a common byproduct of crude oil and natural gas extraction. According to the United Nations Intergovernmental Panel on Climate Change (IPCC), methane is among the most potent greenhouse gas, despite its short atmospheric lifespan of around nine years. It is estimated to have a global warming potential (GWP) of 84 based on a 20 year period. In other words, Methane is 84 to 87 times more potent as a greenhouse gas than carbon dioxide.

**National Biodiesel Accreditation Commission (NBAC) - The NBAC is a 12-member Commission that oversees the voluntary biodiesel quality assurance program known as BQ-9000®. The program is a unique combination of the ASTM standard for biodiesel (D6751), and a quality systems program that includes best practices in storage, sampling, testing, blending, shipping, distribution, and fuel management.**

**National Biodiesel Board (NBB) – Trade association representing the biodiesel industry as the unifying and coordinating body for research and development in the United States. They primarily represent but U.S. producers of biodiesel, renewable diesel, and other advanced biofuels.**

**Net-Negative Emissions –** Or simply, “net-negative.” When the lifecycle greenhouse gas emissions of a person, place, or thing are not only eliminated (reduced to zero) but they exceed the baseline for reductions.

**Net-Zero Emissions –** Or simply “net-zero.” When the lifecycle greenhouse gas emissions of a person, place, or thing are virtually eliminated (reduced to zero) by means of a combination of direct reductions and compensatory carbon negative processes or systems that offset greenhouse gas emissions. Effectively, net-zero or “carbon neutral” is achieved by balancing carbon emissions with carbon reductions.

**Original Equipment Manufacturer (OEM) - A company that produces parts or equipment used in the production of engines or vehicles.**

**Ozone Transport Commission (OTC) -** A multi-state organization created under the federal Clean Air Act responsible for advising EPA on transport issues and for developing and implementing regional solutions to the ground-level ozone problem in the Northeast and Mid-Atlantic regions.

**Ozone Transport Region (OTR) –** Area under the jurisdiction of the Ozone Transport Commission (OTC) that includes all states in the Northeast and Mid-Atlantic regions.

**Paris Agreement/Accord -** An international treaty that seeks to prevent the worst effects of climate change by taking actions necessary to keep global temperature rise this century well below 2 degrees Celsius (above pre-industrial levels); and to pursue efforts to limit the temperature increase even further to 1.5 degrees Celsius. Most reductions baseline dates are implemented in each state. The baseline inventory date for most of the Northeast U.S. is 1990. The agreement is sponsored by the United Nations Framework Convention on Climate Change (UNFCCC) and went into effect November 4, 2016. President Trump withdrew the U.S. from this agreement, and it is the only U.S. nation not to sign. In response, ten states and 287 U.S. cities and counties have signed a “we are still in” pledge of commitment to its goals. 17 Governors and 407 U.S. mayors independently pledged their support.

**Particulate Matter - Particulate matter, an emission linked to asthma and other diseases, is reduced by about 47 percent, and carbon monoxide, a poisonous gas, is reduced by about 48 percent when using biodiesel.**

**Petroleum Diesel – Conventional fuel used to power compression ignition (diesel) engines, that is traditionally a middle distillate derived from petroleum refining.**

**Pyrolysis oil -** Sometimes also known as biocrude or bio-oil, pyrolysis oil is a synthetic fuel obtained through anaerobic (destructive) distillation of biomass in a reactor at a temperature of about 500 °C with subsequent cooling. It is a dense fuel source that cannot be used in an internal-combustion engine, but may be suitable for certain space and water heating applications and power generation.

**Refinery – Industrial process plant where crude oil is refined into a variety of products including gasoline, diesel, heating oil, and propane.**

**Reforestation – Replanting trees to help mitigate global warming since forests facilitate “biosequestration” of atmospheric carbon dioxide. Swiss scientists recently estimated that, even with existing cities and farmland, there’s enough space around the world for new trees to cover 3.5 million square miles, equal to an area roughly the size of the United States. That could allow for the planting of 1 to 1.5 trillion additional trees globally, enough to offset one decade’s worth of CO2 emissions.**

**Regional Greenhouse Gas Initiative (RGGI) –**The RGGI (pronounced “reggie”) is a mandatory market-based program to reduce greenhouse gas emissions and reduce CO2 emissions from the power sector in CT, DE, ME, MD, MA, NH, NY, RI, and VT. As of the writing of this glossary, Pennsylvania and New Jersey have not joined RGGI and Virginia is considering admission. Emission allowances are sold at quarterly actions, and the revenue is reinvested by states to reduce electricity consumption or reduce GHG emissions. Some states use this money to subsidize home efficiency rebates or to incentivize conversions from heating oil to other fuels.

**Renewable Diesel (Renewable Hydrocarbon Diesel) - Defined in the Internal Revenue Code as liquid fuel produced from renewable biomass meeting the same fuel specifications as diesel fuel (ASTM D975) and/or heating oil (ASTM D396). Renewable diesel is like biodiesel in feedstock and end-use but goes through a different refining process.**

**Renewable Energy Credit (REC) –** Another term for an alternative energy credit (AEC).

**Renewable Fuel – Fuels produced from renewable resources including plant material, agricultural byproducts, and others. Biodiesel is an example of a renewable fuel, but not all renewable fuels are biodiesel.**

**Renewable Fuel Standard (RFS) – A U.S. government program created by Congress in 2005 and expanded in 2007 that requires minimum amounts of renewable fuels to be blended into the nation’s transportation fuel supply. The obligation falls on refiners and importers to blend specified volumes of renewable fuels into U.S. transportation fuel supplies each year. These “obligated parties” may purchase energy credits, known as Renewable Identification Numbers or “RINs,” to meet all or part of their obligations. The RFS is working to create American jobs, reduce pollution and carbon emissions, and reduce U.S. reliance on foreign oil imports. Under the RFS, Congress directed the Environmental Protection Agency to maintain renewable fuel success with continued, sustainable growth to support the biodiesel industry and job creation. The RFS required a minimum of 1 billion gallons of advanced biofuels be blended annually beginning in 2010, rising to 21 billion gallons by 2022.**

**Renewable Identification Numbers (RINs) – RINs are the mechanism used by the Environmental Protection Agency to track compliance with the Renewable Fuel Standard (RFS). A RIN is a serial number assigned to each gallon of biofuel produced in the U.S. and used for tracking purposes and trading. Effectively renewable energy credits, RINs may be purchased by obligated parties to meet biofuel blending obligations under the RFS.**

**Renewable Liquid Heating Fuel – Renewable fuels as biodiesel, renewable diesel, and other advanced biofuels, or blends thereof, used in space heating applications.**

**Renewable Portfolio Standard (RPS) -** A regulation that requires the increased production of electricity from renewable energy sources, such as wind, solar, and thermal sources.

**Renewable Volume Obligation (RVO) – Volumes established annually based on projections of gasoline and diesel usage for the coming year under the Renewable Fuel Standard (RFS). RVOs must be met by obligated parties, namely petroleum refiners and importers through either blending qualified biofuels or by purchasing RINs.**

**RIN Pool D3 / D7 -** Cellulosic Biodiesel pool under the Renewable Fuels Standard. Examples include cellulosic ethanol, cellulosic naphtha, cellulosic diesel, renewable CNG/LNG, etc.

**RIN Pool D4 -** Biomass based diesel pool under the Renewable Fuels Standard. Examples include biodiesel and renewable diesel.

**RIN Pool D5 -** Advance Biofuel pool under the Renewable Fuels Standard. Examples include sugarcane ethanol, renewable heating oil, biogas, etc.

**RIN Pool D6 -** Ethanol pool under the Renewable Fuels Standard. An example is corn ethanol.

**Small Refinery Exemptions (SRE) –** Petroleum refineries that produce 75,000 barrels or less per day may seek small refinery exemptions (SREs) from the U.S. Environmental Protection Agency’s (EPA) Renewable Fuels Standard (RFS). They must demonstrate to the EPA that compliance with renewable volume obligations would cause disproportionate economic hardship. This process has come under criticism during the Trump Administration, which has dramatically increased issuance of SREs. Biofuel industry advocates also criticized the opaque process and the EPA’s failure to recoup the lost gallons through higher renewable volume obligations.

**Social Cost of Carbon –** A measure of the alleged economic harm from man-made carbon emissions and other GHG emissions, expressed as a dollar value of the total damages from emitting the equivalent of one ton of carbon dioxide into the atmosphere. The current central estimate of the social cost of carbon is roughly $40 per ton.

**Thermal Renewable Energy Credit (TREC) –** Another term for an alternative energy credit (AEC)

**Tipping Point –** The point at which climate change activists say the worst effects cannot be avoided, or at which a “runaway” greenhouse gas effect would be triggered. They often point to studies that measure the tipping point by GHG emissions levels, overall increases in global temperature, deforestation or rainforest loss, parts-per-million CO2 content in the atmosphere, or some other means.

**Transesterification – A chemical process to produce methyl esters (biodiesel), whereby the crude glycerin is separated from the fat or vegetable oil. The process leaves behind two products – methyl esters (biodiesel) and glycerin (valuable byproduct usually sold to be used in soaps and other products). By definition, a fuel is not biodiesel unless it is produced by the transesterification process.**

**Transportation and Climate Initiative (TCI) –** In 2018, nine Northeast and Mid-Atlantic states and the District of Columbia announced a commitment to reduce carbon emissions in the transportation sector through a cap and trade (or invest) system. Participating states include CT, DC, MD, MA, NJ, PA, RI, VT and VA. It is likely the proceeds from sales of emission allowances would be used to invest in electrification infrastructure and rebates and other subsidies for electric vehicles and heat pumps. A formal plan had not yet been introduced as of the drafting of this article.

**Underwriters Laboratory (UL) -** Established in 1894, UL is the not-for-profit global safety certification company in the world that maintains offices in 46 countries. It conducts safety testing for a range of products.

**Woody Biomass –** Products and by-products of the lumber, timber, and pulp and paper industries, as well as forestry management, restoration, and hazardous fuel reduction treatments. May also include downed or dead plant life resulting from natural disasters, including trees and other woody plants.

**Zero Emissions –** When the lifecycle greenhouse gas emissions of a person, place, or thing are either non-existent, or they are eliminated (reduced to zero) outright and not though compensatory carbon negative processes or systems that offset greenhouse gas emissions.

1. **EPA Regions**

**Region 1 –** Boston (serving CT, ME, MA, NH, RI, and VT)

**Region 2 –** New York City (serving NJ, NY, Puerto Rico, and the U.S. Virgin Islands)

**Region 3 –** Philadelphia (serving DE, DC, MD, PA, VA, and WV)

**Region 4 –** Atlanta (serving AL, FL, GA, KY, MS, NC, SC, and TN)

**Region 5 –** Chicago (serving IL, IN, MI, MN, OH, and WI)

**ACRONYMS AND INITIALIZATIONS**

**MA DEP –** Massachusetts Department of Environmental Protection

**VT DEC –** Vermont Department of Environmental Conversation

**CT DEEP –** Connecticut Department of Energy and Environmental Protection

**ME DEP –** Maine Department of Environmental Protection

**RI DEM -** Rhode Island Department of Environmental Management

**NY DEC –** New York Department of Environmental Conservation

**NYSERDA -** New York State Energy Research and Development Authority

**NY DAR -** New York Division of Air Resources

**NJ DEP -** Department of Environmental Protection

**NYSAQS –** New York State Air Quality Standards. Also simply State Aiq Quality Standards (SAQS)

**PA DCNR -** Pennsylvania Department of Conservation and Natural Resources

**PA DEP -** Pennsylvania Department of Environmental Protection

**NH DES -** New Hampshire Department of Environmental Services

**EPA –** Environmental Protection Agency

**FERC –** Federal Energy Regulatory Commission. Oversees interstate transmission lines and oil and gas pipelines.

**NPDES -** National Pollutant Discharge Elimination System.

**DOE –** U.S. Department of Energy

**DHS –** U.S. Department of Homeland Security.

**USDA –** U.S. Department of Agriculture

**RFS –** Renewable Fuels Standard

**DOI –** U.S. Department of the Interior

**BLM –** Bureau of Land Management, under the U.S. Dept. of the Interior. Oversees oil and gas leasing on public lands and waters.

A4A National Trade Association Not Affiliated with Heating Oil Primary Industry Served is Airlines Airlines for America (A4A)

ABFA National Trade Association Heating Oil Primary Industry Served is Biofuels Advanced BioFuels Association

ABS – Aboveground Storage Tank

ACE – American Coalition for Ethanol -A national grassroots association for ethanol producers and users.

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AEC National Trade Association Heating Oil Primary Industry Served is Oilheat American Energy Coalition

AFPM – American Fuel and Petrochemical Manufacturers. Represents U.S. petroleum refiners. Very refiner focused.

AFPM National Trade Association Heating Oil Primary Industry Served is Refining American Fuel & Petrochemical Manufacturers

AFV – Alternative Fuel Vehicle

API – American Petroleum Institute - The largest petroleum trade association in the US includes all industry segments in their membership. Focus is the largest of energy players in the world.

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API National Trade Association Heating Oil Primary Industry Served is Refining American Petroleum Institute

ASA – [American Soybean Association](https://soygrowers.com/)

AST - Aboveground Storage Tank

ASTM - American Society for Testing Materials (industry standards) ATA – American Trucking Associations

ASTM American Society for Testing and Materials

ATA – American Trucking Associations

ATA National Trade Association Not Affiliated with Heating Oil Primary Industry Served is Trucking American Trucking Associations

ATSWMO (pr. atswamo) Association of State and Territorial Solid Waste Managers

BIA - The Bureau of Indian Affairs (a division of Department of Interior

CBOB - conventional blend-stock for oxygenate blending VOC - volatile organic compounds (evaporative emissions)

CDL - Commercial Driver's License

CERCLA - Comprehensive Environmental Response, Compensation and Liability Act (Superfund, petroleum tax, brownfields and Community Right to Know (EPCRA) enabling Act) CFTC – Commodities Futures Trading Commission

CFR – Code of Federal Regulations

CO2 - carbon dioxide

CT\_CEMA State Trade Association Heating Oil Primary Industry Served is Oilheat Connecticut Energy Marketers Association

DE\_MD\_DC\_MAPDA States Regional Trade Association Heating Oil Primary Industry Served is Petroleum Mid-Atlantic Petroleum Distributors Association Inc.

DEF - diesel exhaust fluid (urea)

DGAC – Dangerous Goods Advisory Council - A national association for hazardous materials producers, transporters and their associations. Growth Energy - A national ethanol producers association.

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DHS - Department of Homeland Security

Diesel Fuel – Many types.

DOE – The Department the Energy

DOE – [US Department of Energy](https://www.energy.gov/)

DOI- The Department of Interior

DOL – The Department of Labor

DOT – The Department of Transportation

DOT – [US Department of Transportation](https://www.transportation.gov/)

EERE – [Office of Energy Efficiency and Renewable Energy (DOE)](https://www.energy.gov/eere/office-energy-efficiency-renewable-energy)

EGR – Exhaust Gas Recirculation

EGR - exhaust gas recirculation (SCR alternative)

EIA – [Energy Information Administration](https://www.eia.gov/)

EL - Ethyl Levulinate (EL) - Alternative Liquid Fuel from cellulose through a chemical process. See BioFine

EMA – Engine Manufacturers Association

EMA – [Engine Manufacturers Association](http://www.truckandenginemanufacturers.org/)

EPA – Environmental Protection Agency

EPA – U.S. Environmental Protection Agency

EPA – [US Environmental Protection Agency](https://www.epa.gov/)

EPAct – Energy Policy Act of 1992, (amended in 1998)

EPCRA - Emergency Planning and Community Right to Know (reporting of chemical storage inventories and hazardous air releases)
EPCRA TIER II - Chemical storage reporting
HAZMAT - Hazardous Materials Transportation

EV – Electric Vehicle

FAME – Fatty Acid Methyl Esters

FDA - Food and Drug Administration

FMCSA - Federal Motor Carrier Safety Administration (inter and intrastate transportation regulations)

FPRF – [Fats and Proteins Research Foundation](https://fprf.org/)

FTC – Federal Trade Commission

Gasoline Many types. Used as primary motor fuel.

GHG - green house gas

GTL – Gas to Liquids

Heating Oil – HO - #2 Fuel Oil – Typical Home heating oil.

HHS - Health and Human Services Administration

HO – Diesel – Heating Oil Traded Contract

HOS - Hours of service regulations for drivers

IFTOA National Trade Association Heating Oil Primary Industry Served is Terminaling Independent Fuel Terminal Operators Association

ILTA – The International Liquid Terminals Association Represents independent terminal owners and operators.

ILTA – The International Liquid Terminals Association Represents independent terminal owners and operators.

IMO 2020 - International Maritime Organization – 2020 Sulfur reduction Rule

IRC – Internal Revenue Code (i.e., the federal tax code)

IRS - Internal Revenue Service

LSD – Low Sulfur Diesel – 500 ppm sulfur

MA\_MEMA State Trade Association Heating Oil Primary Industry Served is Oilheat Massachusetts Energy Marketers Association

ME\_MEMA State Trade Association Heating Oil Primary Industry Served is Oilheat Maine Energy Marketers Association

MPC – Merchants Payment Coalition - A national coalition of retailer associations leading the interchange credit card efforts.

MPC – Merchants Payment Coalition A national coalition of retailer associations leading the interchange credit card efforts.

MSDS - Material Safety Data Sheets Now Called SDSSDS - Safety Data Sheets. Hazmat communications. Formerly called MSDS

NACS - National Association of Convenience Stores A direct member national association for convenience and petroleum retailers. NAORE– The National Association for Oilheat Research and Education An organization of companies and associations that support NORA.

NAFA – [National Association of Fleet Managers](https://www.nafa.org/)

NAORE National Trade Association Heating Oil Primary Industry Served is Oilheat The National Association for Oilheat Research And Education (NAORE)

**National Biodiesel Foundation (NBF) - The Foundation’s mission is to accomplish outreach, education, research and demonstration activities for the advancement of biodiesel. The Foundation is a 501(c) 3 not for profit organization who works closely with the National Biodiesel Board.**

NATSO – The Association for Truck-stops and Travel Plazas. A national association.

NATSO – [National Association of Truck Stop Operators](https://www.natso.com/)

NBB – The National Biodiesel Board - The national association for the biodiesel industry.

NBB – The National Biodiesel Board The national association for the biodiesel industry.

NBB National Trade Association Heating Oil Primary Industry Served is Biofuels National Biodiesel Board

NCWM - National Conference on Weights and Measures - federal and state standard measurement regulators (dispensing equipment)

NEFI – The New England Fuel Institute

NEFI – The New England Fuel Institute

NEFI – [New England Fuel Institute](https://nefi.com/)

NEFI National Trade Association Heating Oil Primary Industry Served is Oilheat NEFI

NFPA - National Fire Protection Association (fire code)

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NH\_EMANH State Trade Association Heating Oil Primary Industry Served is Oilheat Energy Marketers Association of New Hampshire

NIST - National Institute of Standards Technology (federal agency for measurement standards)

NJ\_FMANJ State Trade Association Heating Oil Primary Industry Served is Petroleum Fuel Merchants Association of New Jersey

NLRM

NORA – The National Oilheat Research Alliance A national organization dedicated to education and research for the oilheat industry.

NORA – The National Oilheat Research Alliance. - A national organization dedicated to education and research for the oilheat industry.

NORA National Trade Association Heating Oil Primary Industry Served is Oilheat National Oilheat Research Alliance

NOx – nitrogen oxide

NPGA - National Propane Gas Association

NPGA National Trade Association Not Affiliated with Heating Oil Primary Industry Served is Propane National Propane Gas Association

NPR - National Petrochemical and Refiners Association Represents U.S. petroleum refiners. Very refiner focused.

NPR – Old Name. Now called AFPM National Petrochemical and Refiners Association Represents U.S. petroleum refiners. Very refiner focused.

NRA – [National Renderers Association](http://www.nationalrenderers.org/)

NREL – National Renewable Energy Laboratory

NREL – [National Renewable Energy Laboratory (DOE)](https://www.nrel.gov/)

NTTC National Trade Association Heating Oil Primary Industry Served is Trucking National Tank Truck Carriers

NTTG - National Tank Truck Carriers Association

NTTG - National Tank Truck Carriers Association PMAA - Petroleum Marketers Association of America

NY\_ESEA State Trade Association Heating Oil Primary Industry Served is Petroleum Empire State Energy Association, Inc.

NY\_HVOEC Local Trade Association Heating Oil Primary Industry Served is Oilheat Hudson Valley Oil & Energy Council (HVOEC)

NY\_NYOHA Local Trade Association Heating Oil Primary Industry Served is Oilheat New York Oil Heating Association

NY\_NYPGA State Trade Association Not Affiliated with Heating Oil Primary Industry Served is Propane New York Propane Gas Association

NY\_NYSEC Local Trade Association Heating Oil Primary Industry Served is Oilheat New York Oil Heating Association

NY\_OHILI Local Trade Association Heating Oil Primary Industry Served is Oilheat Oil Heat Institute of Long Island

NY\_UNYEA Local Trade Association Heating Oil Primary Industry Served is Oilheat Upstate New York Energy Association (UNYEA)

OESP or Chapter Local Trade Association Heating Oil Primary Industry Served is Heating Oil Technicial OESP - Vermont & New Hampshire

OESP National Trade Association Heating Oil Primary Industry Served is Oilheat National Association of Oil & Energy Service Professionals

OH\_OPMCA State Trade Association Heating Oil Primary Industry Served is Petroleum Ohio Petroleum Marketer & Convenience Store Association

OMA National Trade Association Heating Oil Primary Industry Served is Heating Oil Technicial Oilheat Manufacturers Association

OMB – The Office of Management and Budget

OOIDA National Trade Association Heating Oil Primary Industry Served is Trucking Owner-Operator Independent Drivers Association

OPO - Oil Program Office (SPCC)

OSHA – Occupational Safety Hazard Administration

OSWER - Office of Solid Waste and Emergency Response

OTAQ - Office of Transportation and Air Quality (greenhouse gas, air pollution standards, fuel regulation)

OTC Ozone Transport Commission

OTR Ozone Transport Region

OUST – Office of Underground Storage Tanks

PA\_BHHCLV Local Trade Association Heating Oil Primary Industry Served is Heating Oil Better Home Heat Council of the Lehigh Valley

PA\_BSOHA Local Trade Association Heating Oil Primary Industry Served is Heating Oil Berks-Schuylkill Oil Heat Association

PA\_CCFDA Local Trade Association Heating Oil Primary Industry Served is Heating Oil Chester County Fuel Dealers Association

PA\_DVFDA Local Trade Association Heating Oil Primary Industry Served is Heating Oil Delaware Valley Fuel Dealers’ Association

PA\_NEPEMA Local Trade Association Heating Oil Primary Industry Served is Heating Oil Northeast Pennsylvania Energy Marketers Association

PA\_OHACP Local Trade Association Heating Oil Primary Industry Served is Petroleum Oil Heat Association of Central Pennsylvania

PA\_PPA State Trade Association Heating Oil Primary Industry Served is Petroleum Pennsylvania Petroleum Association

PA\_PPAPGH Local Trade Association Heating Oil Primary Industry Served is Petroleum Pittsburg Petroleum Association of Pennsylvania

PA\_SCPEA Local Trade Association Heating Oil Primary Industry Served is Heating Oil South Central Pennsylvania Energy Association

PEI - Petroleum Equipment Institute (petroleum storage and dispensing equipment)

PEI - Petroleum Equipment Institute (petroleum storage and dispensing equipment)

PGANE States Regional Trade Association Not Affiliated with Heating Oil Primary Industry Served is Propane Propane Gas Association of New England

PHMSA – Pipeline Hazardous Materials Safety Administration

PMAA National Trade Association Heating Oil Primary Industry Served is Petroleum Petroleum Marketers Assocation Of America

PMPA - Petroleum Marketers Protection Act (regulates franchise agreements and dispenser octane and biodiesel labels)

PPM – Parts Per Million

QSSB – [Qualified State Soybean Board](https://unitedsoybean.org/)

RBOB - reformulated blendstock for oxygenate blending

RCRA - Resource Conservation and Recovery Act (enabling law for underground tanks) SBA – Small Business Administration

RD – Renewable Diesel

RFA – Renewable Fuels Association - A national association mostly focused on ethanol.

RFA – Renewable Fuels Association. A national association mostly focused on ethanol.

RFA – [Renewable Fuels Association](https://ethanolrfa.org/)

RFG - reformulated gasoline

RFS - Renewable fuel standard

RHD – Renewable Hydrocarbon Diesel

RI\_OHI State Trade Association Heating Oil Primary Industry Served is Oilheat Oil Heat Institute of Rhode Island

RIN - Renewable fuel identification number (ethanol and biodiesel blending tracking system)

RVP - Reid Vapor Pressure (volatility standard for summer and winter gasoline blends)

SBLC- The Small Business Legislative Council.

SBLC- The Small Business Legislative Council. A national association of trade associations focused on Small Business issues.

SCR - selective catalytic reduction

SDS – Safety Data Sheet

SIGMA – Society of Independent Gasoline Marketers of America A direct membership national association for motor fuels retailers.

SPCC - Spill Prevention Control and Countermeasure (AST regulations)

SSDA- The Service Station Dealers of America A national federation of state dealer associations.

STI - Steel Tank Institute - (petroleum tanks)

STI - Steel Tank Institute - (petroleum tanks)

TRI - Toxic Release Inventory

TSA - Transportation Security Administration

TTB - Alcohol and Tobacco Trade Board - Department of Treasury office regulating cigarette taxation

TWIC - Transportation Worker Identity Card

UL – Underwriters Laboratories

UL - Underwriters Laboratory (product safety testing)

UL Underwriters Laboratory

ULSD - ultra low sulfur diesel LSD - low sulfur diesel

USB – [United Soybean Board](https://unitedsoybean.org/)

USDA – [US Department of Agriculture](https://www.usda.gov/)

UST – Underground Storage Tank

UV - ultimate vendor (637 registration allows sale of nontaxable fuel)

VA\_VPCGA State Trade Association Heating Oil Primary Industry Served is Petroleum Virginia Petroleum & Convenience Marketers Association

VT\_VFDA State Trade Association Heating Oil Primary Industry Served is Oilheat Vermont Fuel Dealers Association

WIE National Trade Association Heating Oil Primary Industry Served is Oilheat Woment In Energy

WV\_OMEGA State Trade Association Heating Oil Primary Industry Served is Petroleum West Virginia Oil Marketers & Grocers Association

ZEV – Zero-emission Vehicle.