



**Advanced
Biofuels
Association**

R COMPANY



Member Guidebook



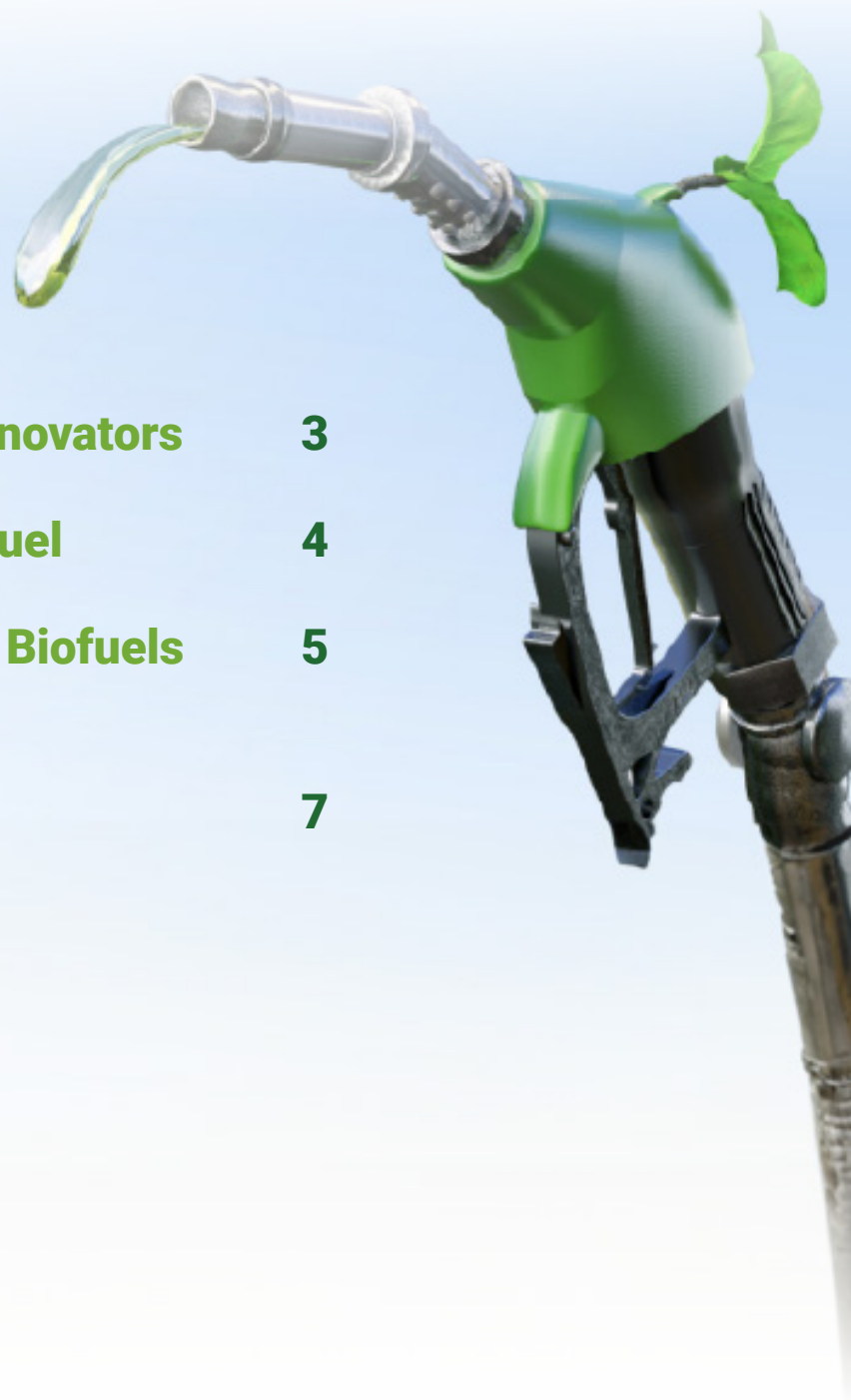
2024



ABFA.ORG

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The Leading Voice Of Energy Innovators

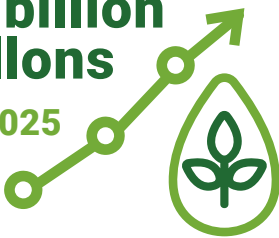


The Advanced Biofuels Association (ABFA) is the leading voice of energy innovators working to decarbonize transportation fuel. We proudly represent the diverse spectrum of advanced biofuels that power every facet of the U.S. transportation landscape, from sustainable aviation fuel (SAF) in the sky, to the revolutionary fuels powering our cars, trucks, and boats, including renewable gasoline, renewable diesel, biodiesel, renewable heating oil, renewable gas, and Dimethyl Ether (DME). Our association unites the leading minds reshaping America's energy status quo.

**renewable diesel
& biodiesel will reach**

**8+ billion
gallons**

by 2025



With action on climate change necessary for the future of our planet and the global economy, we urge U.S. policymakers to support energy policies that are technology neutral, afford flexibility for the use of a variety of sustainable feedstocks, and ensure viable advanced biofuels can compete with the benefit of a level playing field.

Every year, the combined efforts of our members yields a staggering output of **over 4 billion gallons of low-carbon advanced biofuels**. And our industry is growing rapidly – renewable diesel and biodiesel will reach **8+ billion gallons per year by 2025**.

Advanced biofuels, as defined by federal law, are low-carbon fuels that deliver at least a **50% reduction in greenhouse gas emissions** compared to fossil fuels and are derived from lignocellulosic biomass, often nonfood crop feedstocks, agricultural and forest residues, and industrial waste. Unlike their first-generation counterparts, such as corn-based ethanol, advanced biofuels are a one-to-one replacement for gasoline, diesel, and jet fuels. Their emissions advantages, coupled with the ease at which they can be integrated into the nation's current fuel infrastructure without significant taxpayer investment, underscores their pivotal role in a greener future.



Within this guidebook, you will discover the remarkable difference that advanced biofuels are making on our transportation emissions and the potential offered by additional investments. Explore the sustainable energy innovators who make-up the ABFA, and discover their technology, economic footprint, and impact on our nation's green energy transition.

Decarbonizing Transportation Fuel

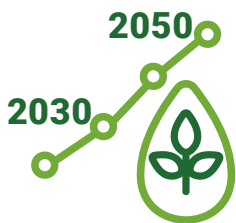
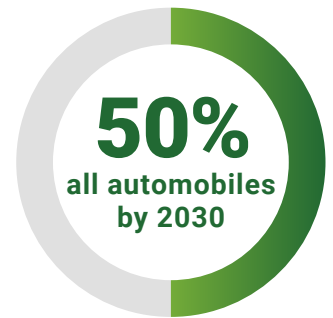


advanced biofuels

can **lower** transportation emissions by up to **80%**

The Advanced Biofuels Association recognizes the urgent need for carbon reduction efforts to protect our planet for future generations. Our industry has been at the forefront of this pursuit, **delivering more than 23 billion gallons of low-carbon liquid fuels since 2005** that have helped to **lower transportation emissions by up to 80%**.

In the U.S., the transportation sector generates the **largest share of our annual greenhouse gas emissions – 28%**. The U.S. has also set a goal that **50% of all new automobiles sold by 2030 must be electric vehicles**. We acknowledge that to achieve maximum carbon reductions and make low-carbon transportation more affordable, we must adopt a comprehensive approach that harnesses the strengths of advanced biofuels alongside electrification. Ultimately, 50% of the cars remaining on roads, and nearly all heavy-duty industry vehicles, like shipping and aviation, will remain reliant upon liquid fuels. Advanced biofuels require little change in fuel distribution infrastructure or the transportation fleet and can therefore be rapidly deployed without significant taxpayer investment.



Further, the aviation industry has agreed to work towards a goal of **net zero emissions by 2050**. However, global jet fuel consumption is anticipated to double or triple from current levels. With the right policies and tax landscape in place, ABFA and its members are poised to fill this need. While data shows sufficient feedstock supply exists to reach our 2030 SAF goals, to reach the 2050 target, EPA must increase access to feedstocks. By expanding access to feedstocks beyond the current mix, SAF producers can achieve a 50% or greater blend rate of 50% or better GHG components in their fuels mix.

To achieve these goals, ABFA has outlined its defining principles for low-carbon fuel policy:

1

ABFA supports advancing policies to address transportation emissions, America's largest source of annual GHG emissions: We seek common ground to **promote effective, harmonized policies that maximize efficiency and long-term market predictability**.

2

ABFA supports an approach that is grounded in principles: These include being **balanced, consistent, dynamic, phased, comprehensive, and flexible**.

3

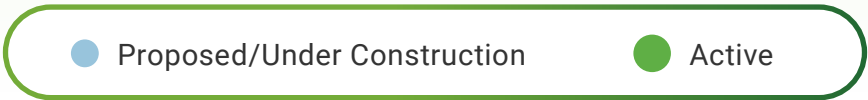
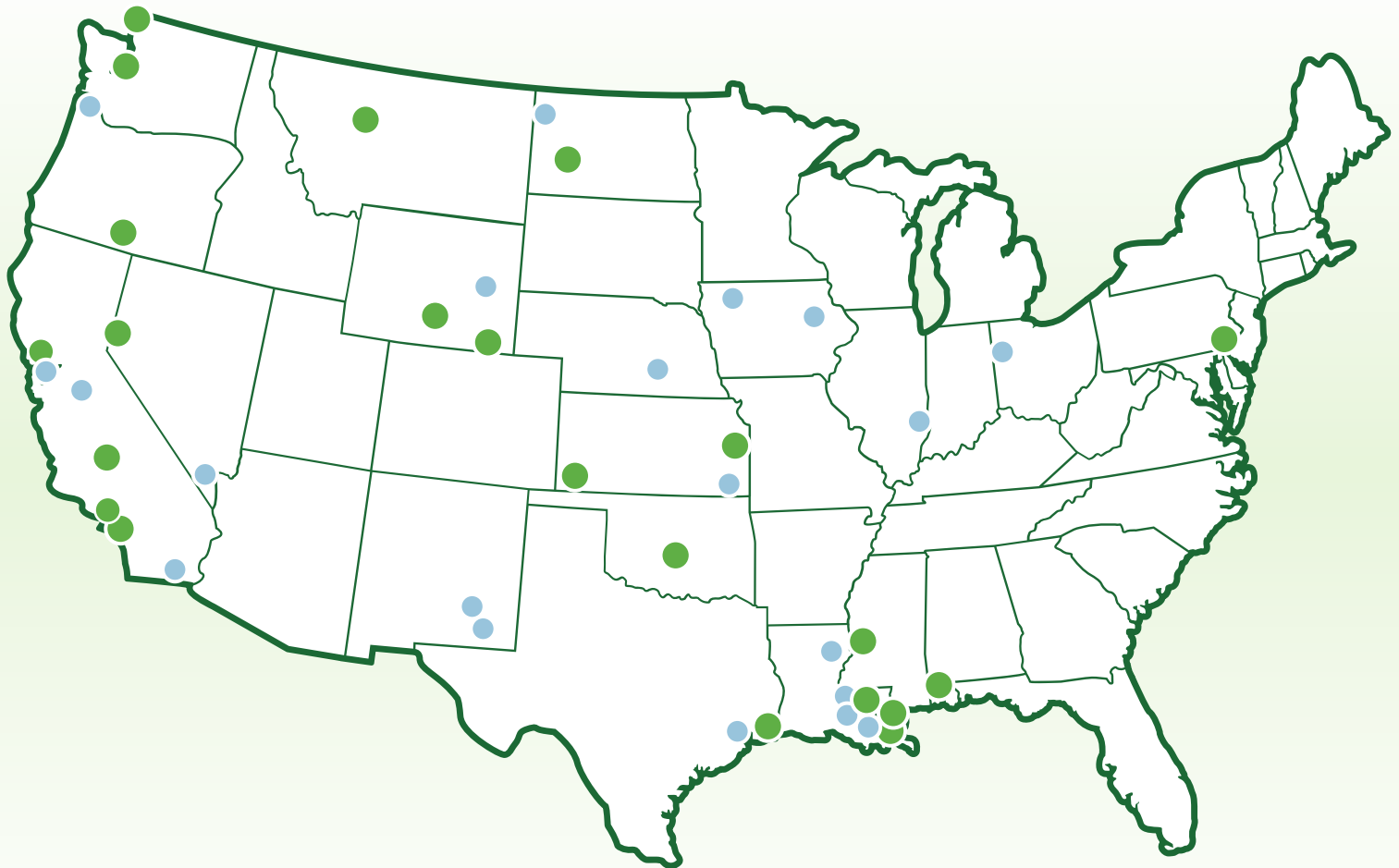
ABFA supports science-based, data-driven LCI accounting methodology: CI LCA methodology to be established with **broad stakeholder input and carbon reductions data, process improvements, and other fuel characteristics** that should be included regardless of sector or source.

America's Expanding Advanced Biofuels Supply & Demand

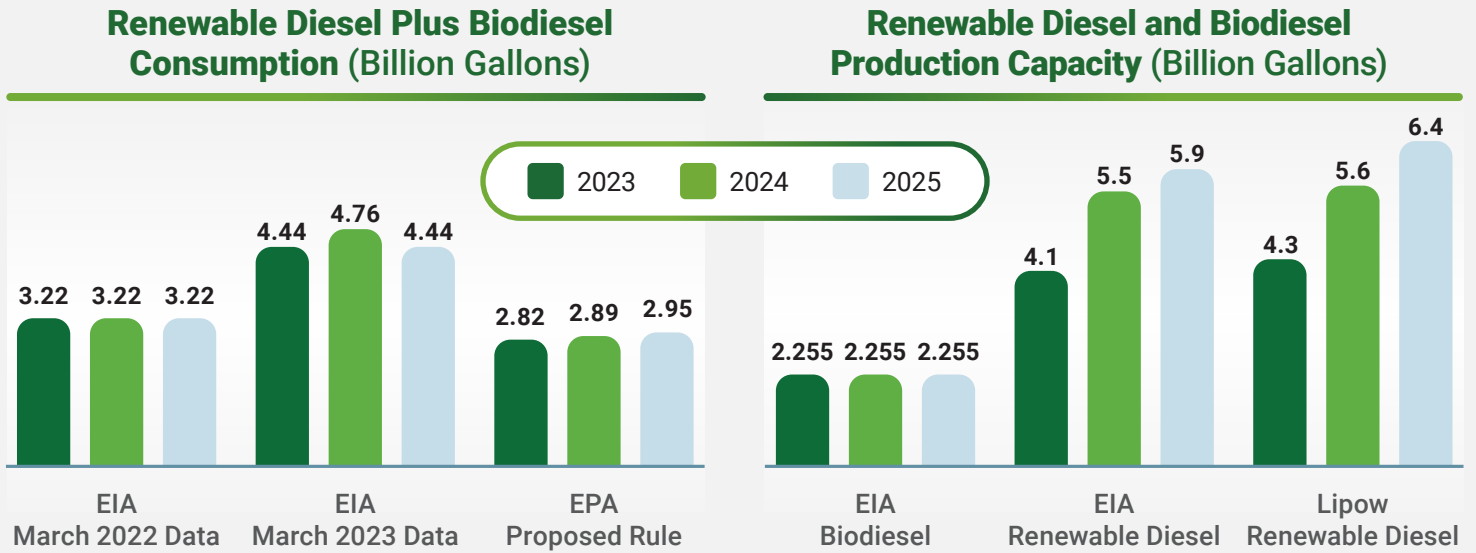


Our domestic capacity for producing low carbon fuels is rapidly expanding, boasting 22 operational advanced biofuel facilities, along with an additional 20 in the proposal or construction stages throughout the United States. As production increases, the market size for advanced biofuels is also undergoing rapid growth. In 2022, the global market for advanced biofuels reached a valuation of \$63.6 billion, and this growth trajectory is projected to continue with a robust compound annual growth rate of 41.18% from 2023 to 2030.

U.S. Renewable Diesel Production Facilities

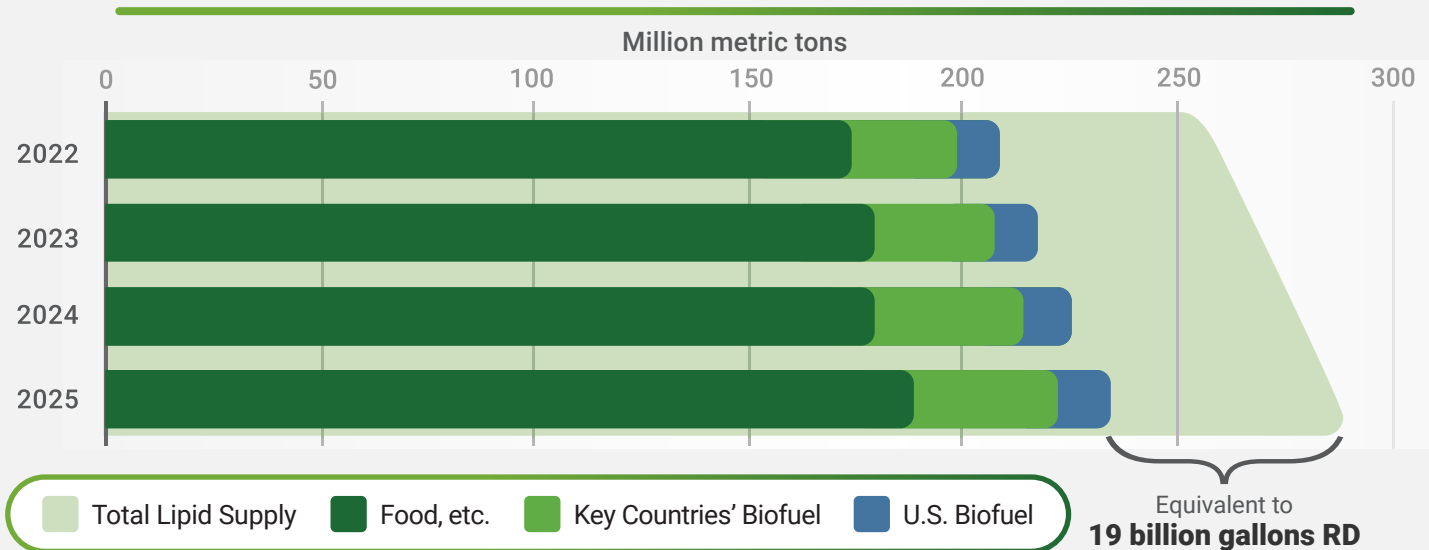


Many organizations are taking notice of the advanced biofuel sector's surging production capacity. In separate studies, the Energy Information Administration (EIA) and Lipow Oil Associates forecasted significant production capacity growth for renewable diesel and biodiesel over the next few years.



This growth is supported by increased feedstock availability. A study conducted by LMC International found that 68 million metric tons of feedstocks, equivalent to over 19 billion gallons of renewable diesel, will be available by 2025 even after accounting for global food demand.

Global Lipid Market Forecast To 2025, Supply Vs. Demand



Advanced biofuels are cultivated from sustainable sources, largely grown within the U.S. These sustainable fuels not only safeguard consumers from potential fluctuations in the international market, but also present domestically sourced solutions that align with America's ambitious climate goals.

Our Members

AIR COMPANY

Years in Business

7

States of Operation

Headquartered in New York City, New York

Number of Employees

-

Air Company uses their proprietary AIRMADE™ Technology to mimic photosynthesis and transform carbon dioxide and water via renewable energy into carbon-negative chemicals and fuels.



Years in Business

115

States of Operation

Headquartered in London; operates worldwide

Number of Employees

70,000

BP is one of the world's largest energy companies and through its bioenergy department, they offer solutions for aviation, marine, and heavy-duty transportation. They continue to drive new decarbonization technologies and capabilities to create innovative zero-carbon energy solutions.



BRAYA
RENEWABLE FUELS

Years in Business

3

States of Operation

Come By Chance, Newfoundland and Labrador, Canada

Number of Employees

200+

The Braya Renewable Fuels refinery is a repurposed petroleum refinery that is being converted into a renewable diesel and sustainable aviation fuel production facility. The facility commenced operations in early 2024.



Brazilian
TRADE LTDA.

Years in Business

-

States of Operation

Headquartered in Curitiba, Brazil; operates worldwide

Number of Employees

-

Brazilian Trade LTDA is an international trade and development company focused on the agribusiness industry.



Years in Business	States of Operation	Number of Employees
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159

Headquartered in Minnetonka, Minnesota; operates worldwide

155,000

Cargill is a global food and energy company that is one of the leading integrated producers of biodiesel in the United States.



Years in Business	States of Operation	Number of Employees
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27

Headquartered in Stamford, Connecticut; operates worldwide. Biofuel branch primarily U.S. based.

-

Castleton Commodities International is a global merchant firm that is involved in commodity trading and is active in a wide spectrum of global energy markets. They are involved in ethanol markets and have a biodiesel marketing and trading and blending business.



Years in Business	States of Operation	Number of Employees
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145

Headquartered in San Ramon, California; operates worldwide

-

Chevron is a global energy company with operations in the renewable fuels industry. In 2021, they used 15 different biofeedstock types to make their fuels. They are involved in efforts to decarbonize the entire transportation sector including automobiles, trucks, planes, ships, and trains.



Years in Business	States of Operation	Number of Employees
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36

Headquartered in Willmar, Minnesota

-

Christianson CPAs and Consultants is a CPA firm that provides accounting, tax, attestation, compliance, and business advisory services. They are particularly well-versed in the renewable fuels space.



Years in Business	States of Operation	Number of Employees
-	Headquartered in Virginia City, Nevada	-
<p>Comstock commercializes technologies that enable systemic decarbonization and accelerate the energy transition by efficiently converting under-utilized natural resources into renewable energy products, and by leveraging physics-based artificial intelligence for more efficient and effective mineral and materials discovery.</p>		



Years in Business	States of Operation	Number of Employees
15	Headquartered in Des Moines, Iowa	-
<p>EcoEngineers is a consulting, audit, and advisory firm with an exclusive focus on the energy transition.</p>		



Years in Business	States of Operation	Number of Employees
40	Headquartered in Ottawa, Ontario	-
<p>Ensyn produces biocrude from forest and agricultural residues using its proprietary thermal technology. Ensyn is now building out its production capacity for the production of low-carbon feedstocks for petroleum refineries in an application known as Refinery Co-processing.</p>		



Years in Business	States of Operation	Number of Employees
158	Headquartered in Spring, Texas; operates worldwide	62,000
<p>Exxon Mobil is one of the world's largest energy companies and they produce advanced biofuels that do not compete with food and water supplies. These include algae, corn stover, switchgrass, or methane emitted from microbial activity in landfills among others.</p>		



Years in Business	States of Operation	Number of Employees
7	Headquartered in São Paulo, Brazil	~1,000

FS Fueling Sustainability is a green energy company that produces ethanol and animal nutrition through 2nd crop corn.



Years in Business	States of Operation	Number of Employees
19	Headquartered in Englewood, Colorado; operates worldwide	100

Gevo is a renewable chemicals and advanced biofuels company that focuses on renewable gasoline, jet fuel, and diesel fuel, as well as renewable natural gas and high value nutritional products. Currently, Gevo’s primary market focus is sustainable aviation fuel, made by converting alcohol to Jet Synthetic Paraffinic Kerosene.



Years in Business	States of Operation	Number of Employees
17	Headquartered in Bakersfield, California, with camelina subsidiaries in Montana, Madrid, and Buenos Aires.	150

Global Clean Energy is a vertically integrated renewable feedstocks and finished fuels company whose business model is designed to control all aspects of the value chain, with one end of their business anchored in plant science and the other in renewable fuels production. Global Clean Energy has developed a portfolio of proprietary elite varieties of Camelina sativa (camelina) to be used as a feedstock for their renewable fuels facility in Bakersfield, California, providing feedstock certainty unmatched in the industry.

GLOBAL PARTNERS

Years in Business	States of Operation	Number of Employees
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91	Headquartered in Waltham, Massachusetts	5,100
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Global Partners is a leading independent owner, supplier, and operator of liquid energy terminals, fueling locations, and retail experiences, with a significant position from Maine to Florida and into the Gulf Coast. Global also offers renewable diesel, biodiesel, ethanol, and other environmental products, and uses its assets to adapt quickly and invest in the future of energy.



HARVESTONE GROUP

Years in Business	States of Operation	Number of Employees
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6	Headquartered in Franklin, Tennessee	-
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Harvestone Group is a global commodity merchant focused in the biofuels sector. They transact across the supply chain to include production, marketing, storing, distributing, and trading as well as invest in physical assets that create meaningful long-term value.

Honeywell UOP

Years in Business	States of Operation	Number of Employees
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110	Headquartered in Des Plaines, Illinois; operates worldwide	5,000
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Honeywell UOP is in the energy and resource development field. They created Honeywell Green Diesel, a drop-in diesel that is chemically identical to petroleum-derived diesel and does not require changes to engines or fuel infrastructure.



Years in Business	States of Operation	Number of Employees
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49

Headquartered in Ottawa, Canada

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iogen makes advanced biofuels from agricultural residues and other organic wastes. In 2004, they became the first company to use enzymatic hydrolysis technology commercially to create advanced biofuels.



Years in Business	States of Operation	Number of Employees
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4

Headquartered in Chicago, Illinois

-

LanzaJet is a leading sustainable fuels technology company that produces sustainable aviation fuel (SAF) and renewable diesel. They convert ethanol to Synthetic Paraffinic Kerosene (SPK) and Synthetic Paraffinic Diesel (SPD). Any source of ethanol can be processed for their fuel, including ethanol produced from municipal solid waste, agricultural residues, industrial off-gases, and biomass.



Louis Dreyfus Company

Years in Business	States of Operation	Number of Employees
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173

Headquartered in Rotterdam, Netherlands; operates worldwide

18,000

Louis Dreyfus Company is a merchant firm that creates biodiesel from a variety of sources including rapeseed, soybeans, and palm oil. They create ethanol from grains, oilseeds, and sugar cane.



Years in Business	States of Operation	Number of Employees
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16

Headquartered in Indianapolis, Indiana

400-500

Monument Chemical is a chemicals manufacturing company that offers a wide range of oxygenated solvents as well as a full product line of aromatic solvents and intermediates. They are involved in the supply chain process for sustainable aviation fuel.



**Serving Main Street
Energy Providers
Since 1942**

Years in Business	States of Operation	Number of Employees
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74	Southborough, Massachusetts	-
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The New England Fuel Institute (NEFI) is a regional business and trade association that represents the home heating fuels industry in greater New England. NEFI represents approximately 1,500 dealers and marketers of heating oil and biofuels for home heating applications (such as bioheat).

Years in Business	States of Operation	Number of Employees
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76	Headquartered in Espoo, Finland; operates in Europe, Asia, as well as North and South America	Over 4,900
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Neste creates solutions for combating climate change and accelerating a shift to a circular economy. The company refines waste, residues, and innovative raw materials into renewable fuels and sustainable feedstock for plastics and other materials. As the world's leading producer of sustainable aviation fuel and renewable diesel and a forerunner in developing renewable and circular feedstock solutions for polymers and chemicals, Neste helps its customers to reduce their greenhouse gas emissions by at least 20 million tons annually by 2030.



Years in Business	States of Operation	Number of Employees
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10	Headquartered in Houston, Texas	45
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Next Wave Energy Partners is an energy producer involved in the advanced biofuels space. They convert ethanol to ethylene and ethylene to alkylate and SAF.



NEXT WAVE
ENERGY PARTNERS



Years in Business	States of Operation	Number of Employees
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18	Sacramento, California; Breckenridge, Minnesota; Vega, Texas; operates in more than 30 countries	400
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Nuseed is a global agriculture innovator enabling the transformation of Omega-3 canola, carinata, sorghum, sunflower, and energy cane into renewable and traceable sources of lower-carbon energy, and plant-based nutrition.



Years in Business	States of Operation	Number of Employees
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14	Headquartered in San Diego, California	-
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Oberon Fuels makes renewable dimethyl ether (rDME®) and renewable methanol from organic waste, such as food waste, agricultural waste, and cellulosic waste. Oberon’s rDME® fuel can reduce the carbon footprint of transportation fuels when used as a blending agent with LPG/propane, a hydrogen carrier to power the growing fuel-cell electric vehicle market, or a diesel substitute.



Years in Business	States of Operation	Number of Employees
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13	Headquartered in Sao Paulo, Brazil	over 46,000
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Raízen is an integrated energy company and a global benchmark in bioenergy with a broad portfolio of renewables. It operates within an integrated business ecosystem, from the cultivation and processing of sugarcane in 35 bioenergy parks, as well as the sales, logistics, and distribution of fuels and sugar. Raízen plays a leading role in the energy transition, particularly in the production of bioenergy and advanced biofuels, like cellulosic ethanol (E2G) and biogas. As the world’s largest producer of sugarcane ethanol, Raízen pioneers the use of advanced technologies, including 2 cellulosic ethanol plants, for the commercial-scale production of renewable energy from industrial process waste.



Years in Business	States of Operation	Number of Employees
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18	Headquartered in Ames, Iowa; operates worldwide	1,000
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Renewable Energy Group is a biodiesel production company that operates 11 biorefineries worldwide.



Shell

Years in Business	States of Operation	Number of Employees
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117	Headquartered in London, England; operates worldwide	86,000
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Shell is a wide-ranging energy company that invests in a number of renewables and low carbon fuels such as sustainable aviation fuel biodiesel, bioethanol, and renewable compressed natural gas.



Years in Business	States of Operation	Number of Employees
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154	Northeast and Mid-Atlantic states in the US	-
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Sprague is an energy company that recently partnered with Biofine to create the advanced biofuel ethyl levulinate.



Years in Business	States of Operation	Number of Employees
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96	Headquartered in Whippany, New Jersey; operates in 42 states	Over 3,200
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Suburban Propane is a nationwide distributor of propane, renewable propane, renewable natural gas, fuel oil, and related products and services. Suburban Propane's wholly-owned subsidiary, Suburban Renewable Energy, is committed to the development of the next generation of even cleaner, lower-carbon products that support Suburban Propane's long-term strategic growth and diversification initiatives in the renewable energy space.

TOPSOE

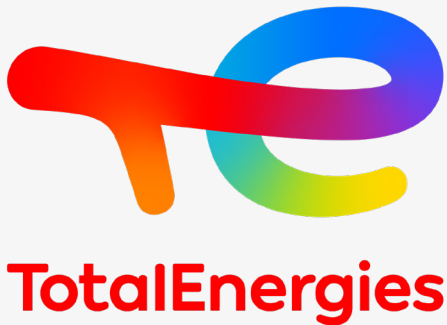
Years in Business	States of Operation	Number of Employees
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84

Lyngby, Denmark

2,800

Topsoe is a leading global provider of technology and solutions for the energy transition. Based on decades of scientific research and innovation, we offer world-leading solutions for transforming renewable resources into fuels and chemicals for a sustainable world, and for efficient and low-carbon fuel production and clean air.



Years in Business	States of Operation	Number of Employees
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100

Headquartered in Paris La Défense Cedex

-

Total Energies is an energy company that creates innovative and efficient technology. Their biofuels are based on RED compliant feedstock according to Annex IX part A and B, and are certified under the International Sustainability and Carbon Certification (ISCC) system.



Years in Business	States of Operation	Number of Employees
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18

Headquartered in London, UK
Offices in Columbus, Ohio and Houston, TX. Developing a \$multi-billion biorefinery in Natchez, MS

~40

Velocys has developed a sustainable fuels technology which enables the production of negative carbon intensity sustainable aviation fuel (SAF) safely and effectively from a variety of waste materials (typically municipal waste and woody biomass).



Years in Business	States of Operation	Number of Employees
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22	Headquartered in Madison, Wisconsin	-
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Virent is working to commercialize its BioForming® technology to create sustainable fuels and chemicals from a wide range of naturally occurring, renewable resources. Using patented catalytic chemistry, Virent converts bio-based sugar feedstocks into products molecularly identical to those made from petroleum. Virent’s technology can produce a range of biofuel products including gasoline, diesel, and jet fuel, as well as chemicals used for plastics, fibers and films.



Years in Business	States of Operation	Number of Employees
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74	Headquartered in Houston, Texas	-
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Weaver’s Energy Compliance Services practice is dedicated to helping energy businesses comply with evolving regulations. Transportation fuel regulations governed by the U.S. Environmental Protection Agency (EPA), Environment and Climate Change Canada, and various other agencies are substantial areas of focus for their practice.



Years in Business	States of Operation	Number of Employees
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26	Headquartered in Boston, Massachusetts	-
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World Energy is a low-carbon solutions provider focused on helping the world’s leading companies make their net-zero commitments real. Their solutions include sustainable aviation fuel, renewable diesel, and renewable naphtha, with plans to create renewable propane and green hydrogen.