

***The Quickest and Most Economic
Way to Renewable Energy***



**Advanced Biofuel for
Power Generation**

Advanced Renewable Technology

New Generation Biofuels Get to Know Us

New Generation Biofuels (NGBF) is a publicly traded US-based technology company focused on providing biofuel solutions for your energy needs. We solve energy, economic, and environmental challenges that businesses and industries are facing through our unique proprietary biofuel technology.



LIQUID BIOMASS: A STRONG VALUE PROPOSITION FOR POWER GENERATION

- » Fastest and potentially the lowest cost way to meet existing state RPS and pending federal RES.
- » Use existing fossil fueled plants to meet future carbon offset requirements.
- » Limited capital outlay to make existing infrastructure renewable.
- » Competitively priced with #2 fuel oil.
- » Sales, tolling and technology licensing arrangements available.

NGBF TECHNOLOGY

Our technology is based on creating **emulsions** that can be used in distillate fuel, heavy fuel oil and coal co-firing applications. An emulsion is the combination of liquids that naturally do not want to combine with one another. There are many examples of emulsions in the foods we eat (salad dressings, mayonnaise) and in the pharmaceutical industry. Our technology allows us to combine plant and/or animal oils, water, and proprietary additive packages to form fuels that can provide uniquely desired characteristics and solutions for the environmental, economic, and energy challenges we face in the world today.

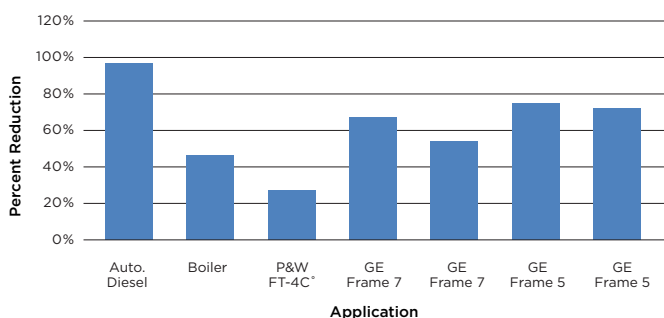
PRODUCTION PROCESS

- » Consistent quality control with a goal of ISO 9000 certification.
- » Limited energy input reduces cost, emissions, and carbon footprint.
- » No significant yield losses, by-products, wastes, emissions, or discharges.
- » Small physical footprint allows for on-site tolling and enhanced supply security.
- » Blending process substantially lowers capital and production costs vs. alternatives.



Key advantages of our technology...

New Generation Biofuels NOx Improvement



EMISSIONS >>

Multiple applications have demonstrated reductions of nitrogen oxides (NO_x) by more than 30% (in some cases greater than 70 %!). Sulfur oxides (SO_x) are virtually eliminated. Plus, biofuel made with pre-treated waste feedstocks and/or virgin plant oils has limited particulate production.





CARBON FOOTPRINT >>

Our technology is a low energy, precise manufacturing process. Every raw material used becomes an integral part of the final formulated fuel. Very little waste is created; Our process is based on blending, mixing, and proportions, not chemical reactions that can be energy intensive and create waste streams. Compared to fossil fuels, our biofuels can reduce net CO₂ emissions by:

- 80% when using waste or byproduct feedstocks.
- 30% when using RBD soybean oil including Indirect Land-Use Changes.

LOW TEMPERATURE FLOW >>

How about better than -40 °F for a pour point? That is what we achieve with our Classic formulation. Our Ultra HF (High Flash) product has a 5 °F pour point, still better than many other biofuel and conventionally refined technologies.

FEEDSTOCK FLEXIBILITY >>

NGBF's emulsion technology allows us to use a wide range of low cost feedstocks. The company has strong feedstock supplier relationships and significant ongoing R&D efforts evaluating a multitude of next generation feedstocks.

PRODUCT STABILITY >>

NGBF biofuels are robust emulsions that will remain stable and can be used for extended periods of time. Our stability tests include:

- >> Bottom Sediment & Water (ASTM D2709); < 0.5%
- >> Oxidative Stability (ASTM EN14112).
 - ASTM D-6751 specifies a 3 hour minimum, NGBF biofuels average 5 hours with a 4.7 hour minimum.
- >> Storage Stability - Iodine Number (AOCS Cd 1d-62)
 - Target value <115 to avoid polymerization; NGBF Classic is 70; Ultra HF is 86.
- >> Temperature Cycling: At NGBF we rigorously test our fuels in varying temperature conditions, often more harsh than our customers will ever experience, to stress our formulations.
 - Viscosity remains very stable.
 - Fuel does not degrade.

EASE AND SPEED OF CONVERSION >>

We have demonstrated that converting from other liquid fuels to NGBF biofuels is quick and simple. Conversions to NGBF biofuels in boiler applications have required only simple tuning. Our first conversion took less than 45 minutes. Others have been even faster. Little if any capital is required. Combustion Turbine tests have allowed for simple fuel switching. Our engineers work with you directly on the conversion process to assure things are tailored for your needs. It could not be easier to get such huge environmental energy benefits.

COST OF CAPITAL >>

Our technology is very cost competitive. We have demonstrated our manufacturing technology can be built at a cost of 25 to 50 cents per gallon of production capacity (for comparison ethanol is typically \$2/gallon or higher and biodiesel is over \$1/gallon). Reduced capital cost translates to lower fuel costs, faster time to market, and the flexibility to build manufacturing capacity in many locations: close to raw material sources, attractive markets, and close to or co-locating with customers and/or licensee sites. There is neither a faster nor a less expensive capital way that we are aware of to improve your environmental profile.

FIELD TESTED >>

- » Field tested in Combustion Turbines, light-off and boiler applications.
 - GE Frame 5 and 7b Combustion Turbines.
 - Pratt & Whitney FT4 Aero derivative gas turbine.
 - Babcock & Wilcox utility steam boiler : Light-off and flame support.
 - Cleaver-Brooks 200HP and 150HP fire-tube boilers.
- » Multiple studies in Italy showing fuel's use in industrial boiler applications and motor vehicles.
- » Ongoing testing with OEM's such as Cleaver-Brooks as well as University partners in the U.S. and Europe.

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- » Can be burned as a 100% substitute (neat) for #2 fuel oil, #6 fuel oil and kerosene or blended with #2 fuel oil, #6 fuel oil or co-fired with coal.
- » Meets most state definitions of biomass.
 - Some states allow co-firing: proportion of biomass fuel input dictates proportion of electricity output deemed renewable.
- » Qualifies as biomass under American Clean Energy Security Act of 2009 (ACES).
- » Limited capital necessary to convert from or co-fire with fossil fuels - #2 , #6, coal.
- » Minimal metals and salts (potassium, sodium, vanadium).
- » Does not interfere with SCR or NO_x abatement systems.
- » Low ash content.
- » Biodegradable.
- » Excellent low pour point/low temperature flow properties.
- » Strong ignition and atomization characteristics.
- » Improved lubricity.
- » Reduces NO_x, SO_x, and net CO₂ emissions.



CONTACT US TODAY...

... To evaluate how New Generation Biofuels can partner with you to solve your energy, economic, and environmental challenges.

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