

# RENEWABLE DIESEL

## NEXDIESEL

Green California Summit

April 21, 2016

»NEXGENFUEL



RENEWABLE FUELS: IT'S NOT JUST ELECTRICITY THAT'S GREEN!

# WHAT IS RENEWABLE DIESEL?

- Renewable Diesel is an ultra clean burning, sustainable, **petroleum-free** “drop-in” replacement fuel for diesel engines.
- Renewable Diesel is also referred to as Hydrogen-Derived Renewable Diesel (HDRD). It is a second generation alternative diesel fuel.
- Renewable Diesel is a pure paraffinic hydrocarbon. It’s odorless, colorless, and free of oxygen or sulfur, both of which cause increased emissions.
- Renewable Diesel is made from vegetable oil, animal fat, waste cooking oil, grease, etc.

# BENEFITS OF RENEWABLE DIESEL

## DROP-IN FUEL

- Use it “neat” or blended
- No infrastructure or fuel system changes
- Meets ASTM D975 & CARB diesel specifications

## PREMIUM QUALITY

- Use in any diesel engine in place of petroleum-based fuels
- Very high Cetane number (70-90)
- Very stable. Store over long periods of time without quality deterioration

# BENEFITS OF RENEWABLE DIESEL

## REDUCE EMISSIONS

- Reduces GHG emissions by 65 - 90% over petroleum diesel
- Particulate matter 33%
- Nitrogen Oxides (NOx) 9%
- Carbon Monoxide (CO) 24%
- Hydrocarbons (HC) 30%CV

## LOW CLOUD POINT

- -20 Degrees C

# RENEWABLE DIESEL WON'T VOID WARRANTIES

- Renewable Diesel is chemically identical to petroleum diesel.  
It cannot void any manufacturer's engine warranty.
- Renewable Diesel meets and exceeds the petroleum standard, ASTM D975 and all engine manufacturer fuel requirements.

# FLEETS USING RENEWABLE DIESEL

## PUBLIC



## PRIVATE/CORPORATE



# RENEWABLE DIESEL FOR OFF-ROAD VEHICLES

- For use in off-road equipment to replace petroleum diesel
- Decrease emissions significantly & cleaner air for workers
- Fully fungible
- No retrofitting of engines
- No additional infrastructure
- No storage stability problems

# ACROSS USA ON 1 TANK OF RENEWABLE DIESEL

Florida to California  
on 1 tank of  
**NEXDIESEL**  
Renewable Diesel



1

Less than 1  
tank

2507

Miles traveled

38

37.6 gallons of  
NEXDIESEL used

67

Average of  
66.7 MPG

**»NEXGENFUEL**

**CLP**  
MOTORSPORTS

 **GOLDEN GATE  
PETROLEUM**



# » NEXGEN FUEL

**NEXGEN Fuel** was formed to identify “next generation” alternative fuels and to bring those fuels to the marketplace. Renewable diesel is the first fuel that NEXGEN has brought to market and it’s sold under the brand, NeXdiesel.

**NEXGEN Fuel** is bringing a renewable gasoline substitute to the marketplace. There are numerous options for a renewable gasoline substitute, but all options are currently in the test phase or early commercialization stage, which means production scale up is required.

**NEXGEN Fuel** is bringing a renewable propane to the marketplace. Renewable propane is a product currently being manufactured in Europe, but due to economic factors, is not yet available in California.



# GOLDEN GATE PETROLEUM

**Golden Gate Petroleum** is one of the largest petroleum and biofuel distributors in the Western United States. The company was founded in 1946 in San Francisco and currently headquartered in Martinez, CA.

**Golden Gate Petroleum** has consistently been a leader in bringing new alternative fuels to the marketplace. Golden Gate started distributing biodiesel in 1996 and grew to be one of the largest biodiesel distributors in the U.S.

In early 2013, Golden Gate Petroleum continued the tradition of bringing new alternative fuels to the market by distributing Renewable Diesel. Golden Gate Petroleum was the first company globally to focus on the distribution of Renewable Diesel as a drop-in replacement fuel versus a blend stock in petroleum diesel. Since 2013, Golden Gate Petroleum has delivered over 63 million gallons of Renewable Diesel to our customers with tremendous success.

# FUTURE FUELS: RENEWABLE GASOLINE & PROPANE

Finding a suitable renewable gasoline alternative is more challenging than renewable diesel, which is a fully “drop-in” fuel. Unlike diesel, gasoline is a blend of different chemical components to achieve the desired specification-- a standard which constantly changes throughout the calendar year. There are alternative fuels that can run in existing gasoline engines, but they do not meet the gasoline ASTM standard specification. Therefore, in order to use those fuels, establishing new fuel standards, obtaining OEM engine approvals, securing gasoline dispensing equipment certification and getting EPA approval, etc. would be necessary.

Examples of second generation gasoline-like fuels are Bio-Butanol, Bio-Isooctane, Renewable Gasoline– a byproduct of the RD process. None of these fuels can currently be used in an existing gasoline engine as a “drop-in” fuel but **NEXGEN Fuel** is developing a blend of these fuels to meet the gasoline ASTM standard.

Renewable propane is a by-product of manufacturing renewable diesel. Therefore, if a renewable diesel manufacturing plant is built in California or nearby, then renewable propane would be available in the marketplace.

# READY FOR A GREENER FLEET?

Contact Golden Gate Petroleum to operate your fleet petroleum-free using the highest quality, cleanest burning renewable diesel fuel.

Pat O'Keefe

Vice President of Golden Gate Petroleum  
& CEO/President of Nexgen Fuel

[Pat@ggpetroleum.com](mailto:Pat@ggpetroleum.com)

[Pat@nexgenfuel.com](mailto:Pat@nexgenfuel.com)

Call: 1 (800) 244-4516

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The background of the slide is a blue geometric pattern composed of many small triangles. The pattern is lighter blue at the top and bottom edges and transitions to a darker blue towards the center. The text "THANK YOU" is centered in the white space between the top and bottom blue sections.

**THANK YOU**