



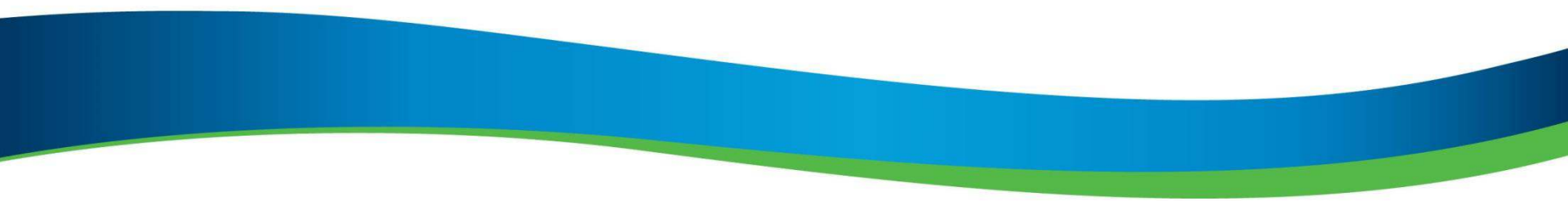
Wisconsin Clean Cities Webinar

Advantages of Switching to Biodiesel

Safe Harbor Statement

This presentation contains certain forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995 as amended. These forward-looking statements are based on current expectations, estimates, assumptions and projections that are subject to change, and actual results may differ materially. Factors that could cause actual results to differ materially include, but are not limited to, potential changes in governmental programs and policies and federal and state governmental tax credits and incentives requiring or encouraging the use of biofuels, including RFS2, and biomass-based diesel production; changes in the spread between biomass-based diesel prices and feedstock costs; the future price and volatility of feedstocks; the future price and volatility of petroleum and products derived from petroleum; risks associated with fire or explosion at our facilities, including potential losses associated with the fires at our Geismar facility; the effect of excess capacity in the biomass-based diesel industry; unanticipated changes in the biomass-based diesel market from which we generate almost all of our revenues; seasonal fluctuations in our operating results; competition in the markets in which we operate; our dependence on sales to a single customer; technological advances or new methods of biomass-based diesel production or the development of energy alternatives to biomass-based diesel; our ability to successfully implement our acquisition strategy; our ability to use our development stage life sciences technologies to produce renewable chemicals, fuels and other products on a commercial scale and at a competitive cost, and customer acceptance of the products produced; the significant capital expenditures required to produce commercial quantities of renewable chemicals; and other risks and uncertainties described from time to time in REG's annual report on Form 10-K for the year ended December 31, 2015, quarterly reports on Form 10-Q and other periodic filings with the Securities and Exchange Commission.

This presentation reports Adjusted EBITDA, a non-GAAP financial measure. A reconciliation of Adjusted EBITDA to net income, the most comparable GAAP measure, is provided in the Appendix to this presentation.



REG enables a cleaner world
through **lower carbon intensity**
products and services.

Advanced biorefining leadership

13
**Biomass-Based
Diesel Plants**



502
**MMGY
NAMEPLATE
CAPACITY**

Multiple Feedstock Capable



Albert Lea, MN



Danville, IL



Emden, Germany



Geismar, LA



Madison, WI



Mason City, IA



New Boston, TX



Newton, IA



Oeding, Germany



Seneca, IL

Refined Feedstock



Grays Harbor, WA



Houston, TX



Ralston, IA

Fermentation Facility



Okeechobee, FL

Feedstock Proc. Facility



Burlo, Germany

Partially Completed or Repairs Required



Atlanta, GA



Clovis, NM



Emporia, KS



New Orleans

Broad Marketing & Logistics Capabilities

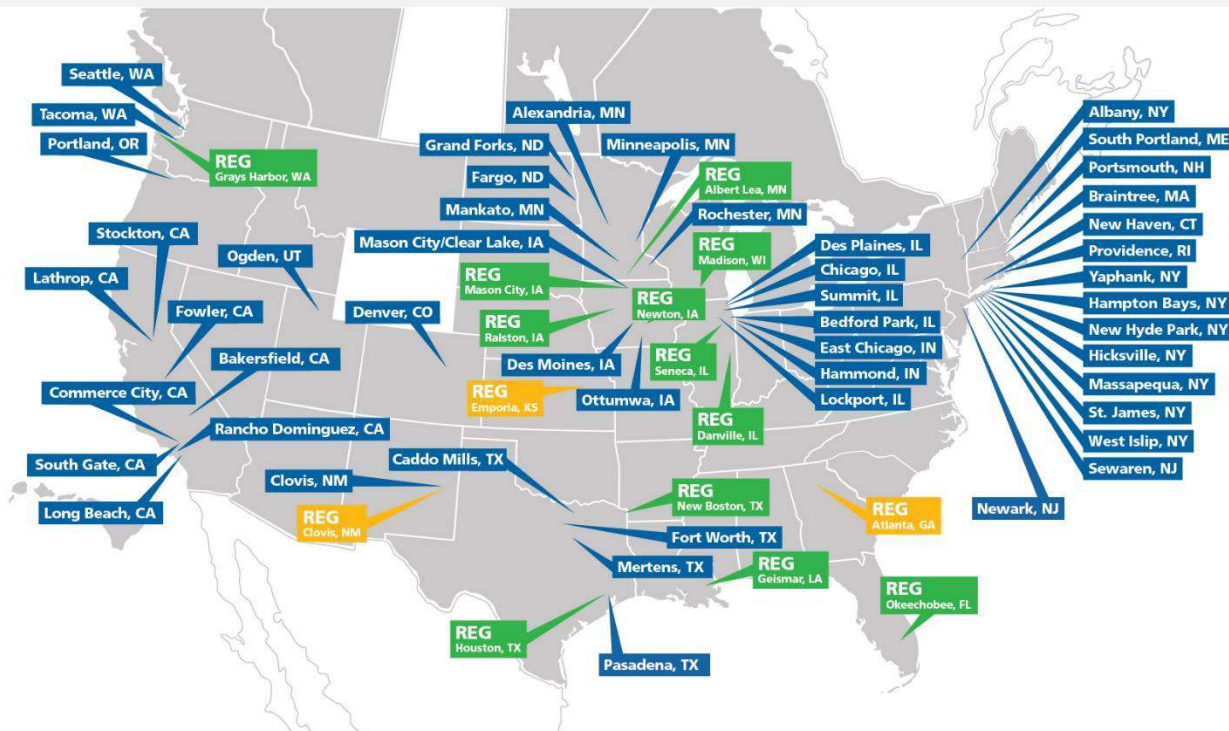
REG
STATS:

20+
YEARS

REG has been producing biodiesel since 1996.

502
MMGY

Over 500 million gallons per year of total biofuel production capacity



■ PRODUCT
Delivered — 2017

■ TERMINAL
POSITIONS

■ BIOREFINERIES
Operational Facilities

■ BIOREFINERIES
Growth Opportunities

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gy Group, Inc.



Fueled By Convenience

REG can make it easier to manage all your fuel needs



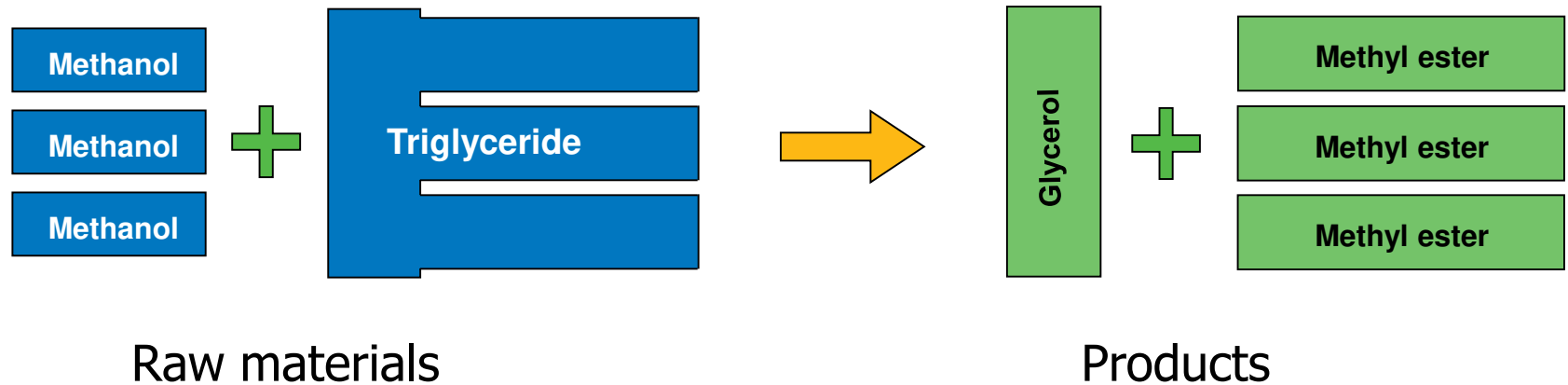
- REG-9000 biodiesel
- REG-9000 Renewable Hydrocarbon Diesel
- #2 ULSD
- Heating oil
- Blended fuels
 - B2-B20 & higher
 - RD/B20



Biodiesel

What Is Biodiesel?

- Biodiesel is **methyl esters** made from biological oils and fats (**triglycerides**) by **transesterification***



Transesterification reaction

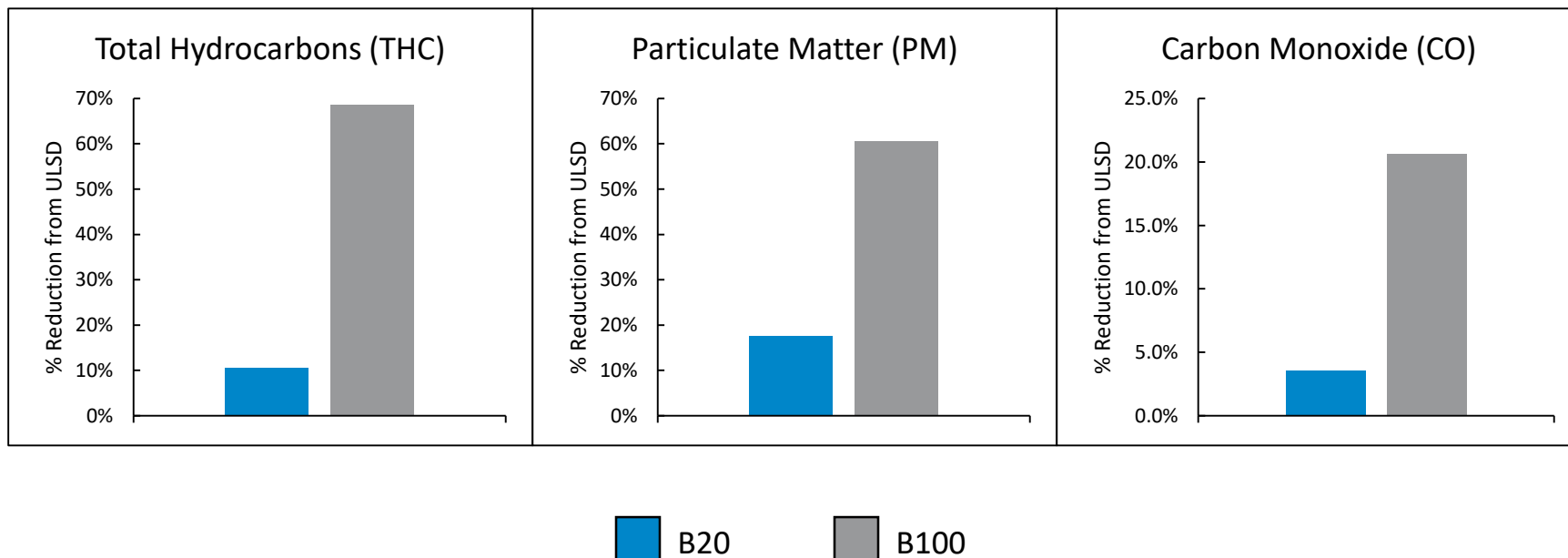
****Transesterification** is the process of swapping one alcohol (i.e. methanol) for another alcohol (i.e. glycerol)*

Benefits of Biodiesel

- Blends with petrodiesel in any percentage
 - Once it is blended it does not separate back out
- Higher Cetane
 - Over 50 vs. average petrodiesel around 44
 - Smoother, more complete burn
- Higher Lubricity
 - 2% biodiesel 'fixes' even bad diesel
- Virtually Zero Sulfur
 - Meets ULSD limits of 15 ppm or less
- Zero Aromatics Reduces Toxicity and Burns Cleaner
- 11% Oxygen Provides Superior Lubricity and Reduces Black Smoke (Particulates)
- High Flash Point Makes it Safer
 - Non hazardous shipping (over 200 F)



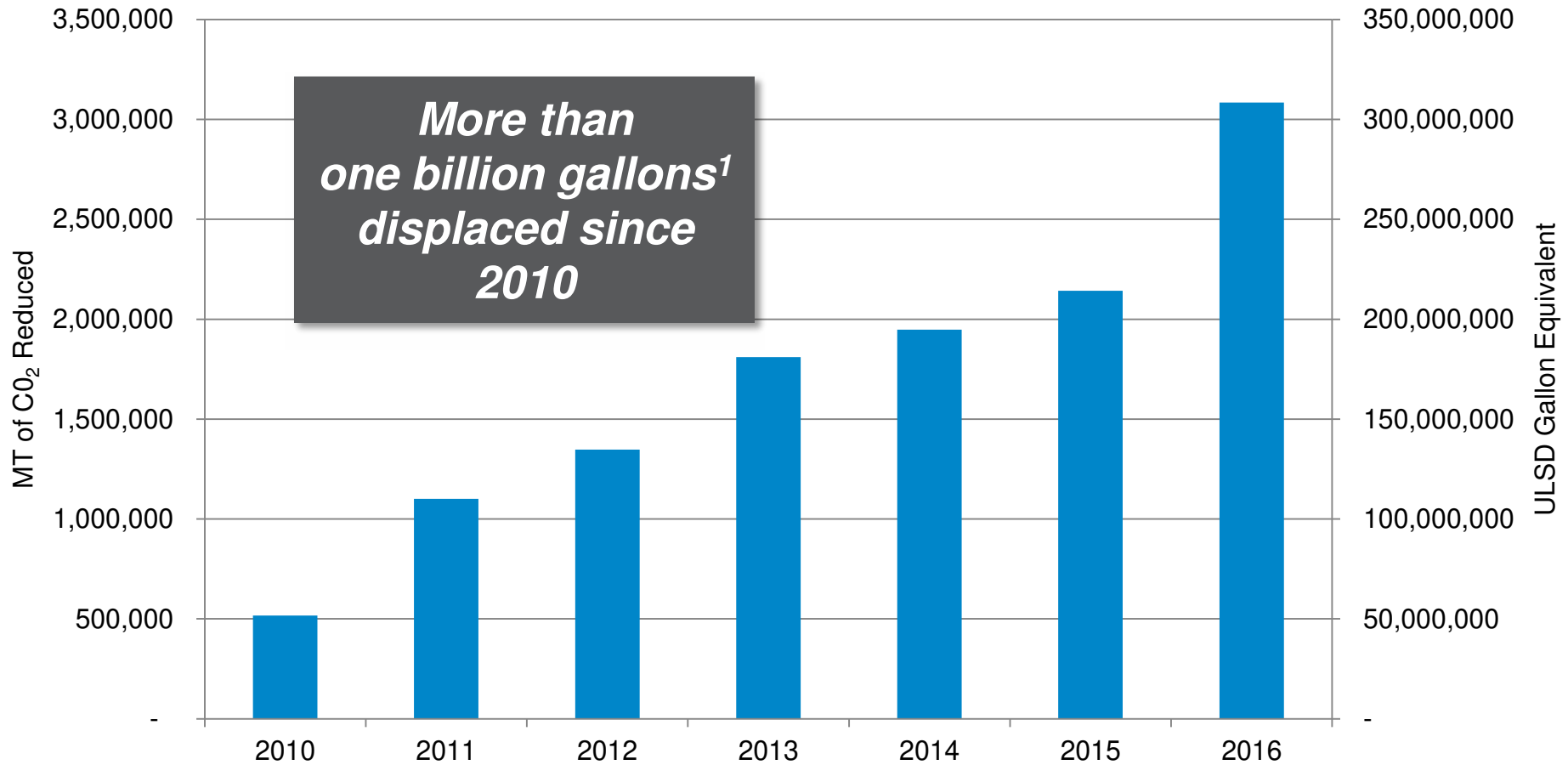
Biomass-based Diesel Emissions



Note: All emissions data taken from 2006 Cummins ISM 370 on Federal Test Procedure driving cycle, as reported in Durbin, Thomas D., et al. "CARB Assessment of the Emissions from the Use of Biodiesel as a Motor Vehicle Fuel in California "Biodiesel Characterization and NOx Mitigation Study". California Air Resources Board: Sacramento, CA (2011). Comparisons with Federal ULSD were conducted based on a linear comparison with CARB ULSD data. All biodiesel data shown is taken as an average of the means of high and low cloud point biodiesel emissions results, where available.

Greenhouse Gas (GHG) Reduction

Estimated GHG Reduction from REG Biofuel Production



Notes: 1. Diesel gallon GHG equivalents, does not include production from Petrotec or third party gallons resold
Source: REG Analysis

Biodiesel Quality

- ASTM D6751 provides biodiesel specifications*
 - 20 tests (currently)
 - Includes both quality and performance indicators
 - No specification that restricts feedstock options
 - Represents the minimum acceptable quality
- Certificate of Analysis
 - A “C of A” should be available for every lot of biodiesel
 - Should provide a complete list of specifications and test results
 - May contain additional tests beyond ASTM D6751

**ASTM = American Society for Testing and Materials*

REG-9000 Production Specification

Test Name	ASTM D6751 Specification	REG-9000® Specification
Free Glycerin	0.020 %mass, max	0.014 %mass
Total Glycerin	0.240 %mass, max	0.16 %mass
Water & Sediment	0.05 %vol, max	0.01 %vol
Acid Number	0.50 mg KOH/g, max	0.40 mg KOH/g
Kinematic Viscosity @ 40 °C	1.9 – 6.0 mm ² /sec	3.8 – 5.0 mm ² /sec
Copper Strip Corrosion	No. 3, max	No. 1a
Na and K, combined	5.0 ppm, max	1.5 ppm
Ca and Mg, combined	5.0 ppm, max	1.5 ppm
Cold Soak Filtration	360 sec, max	200 sec
Oxidation Stability*	3.0 hr, min	6.0 hr *
Monoglycerides	Not required	0.40 %mass
Diglycerides	Not required	0.20 %mass
Triglycerides	Not required	0.15 %mass
Moisture (Karl-Fischer)	Not required	400 ppm
Visual Inspection (Haze rating)	Not required	1
Density @ 15 °C	Not required	0.87—0.89 g/mL

What is BQ-9000?

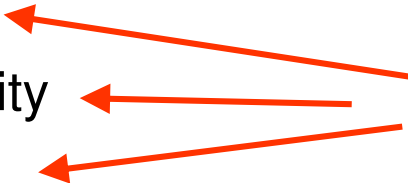
- Voluntary quality assurance program created for the North American biodiesel industry
- **BQ-9000**: Producers & Marketers
 - Rigorous, externally-monitored quality programs
 - Producer: no “off spec” biodiesel leaves the plant
 - Marketer: no “off spec” biodiesel leaves the distribution tank
- REG performs **additional tests** on every lot (reported on C of A)
 - Mono-, di-, and triglyceride content
 - Moisture content
 - Particulate Contamination
 - Ester Content

REG-9000 Product Lineup

REG-9000/1		REG-9000/5		REG-9000/10	
Cloud Point	-2 - +2 °C (28-36°F)	Cloud Point	3-7 °C (37-45°F)	Cloud Point	8-12 °C (46-54°F)

- Marketing biodiesel on finished fuel attributes, not feedstock sources
- Provides unprecedented options for high quality biodiesel from a single supplier
- **REG-9000 specifications exceed ASTM D6751**

Feedstock & Fuel Quality

- Biodiesel can be made from:
 - Vegetable oils (soy, canola/rapeseed, palm, etc.)
 - Animal fats (pork fat, beef tallow, poultry fat)
 - Used oils (used cooking oil, brown grease)
 - Production skill, not feedstock, determines biodiesel quality
 - Color is not a quality indicator
 - Feedstock should only affect a few properties:
 - Cloud point
 - Density & viscosity
 - Cetane number
- Determined by the carbon chain distribution of the feedstock
- 

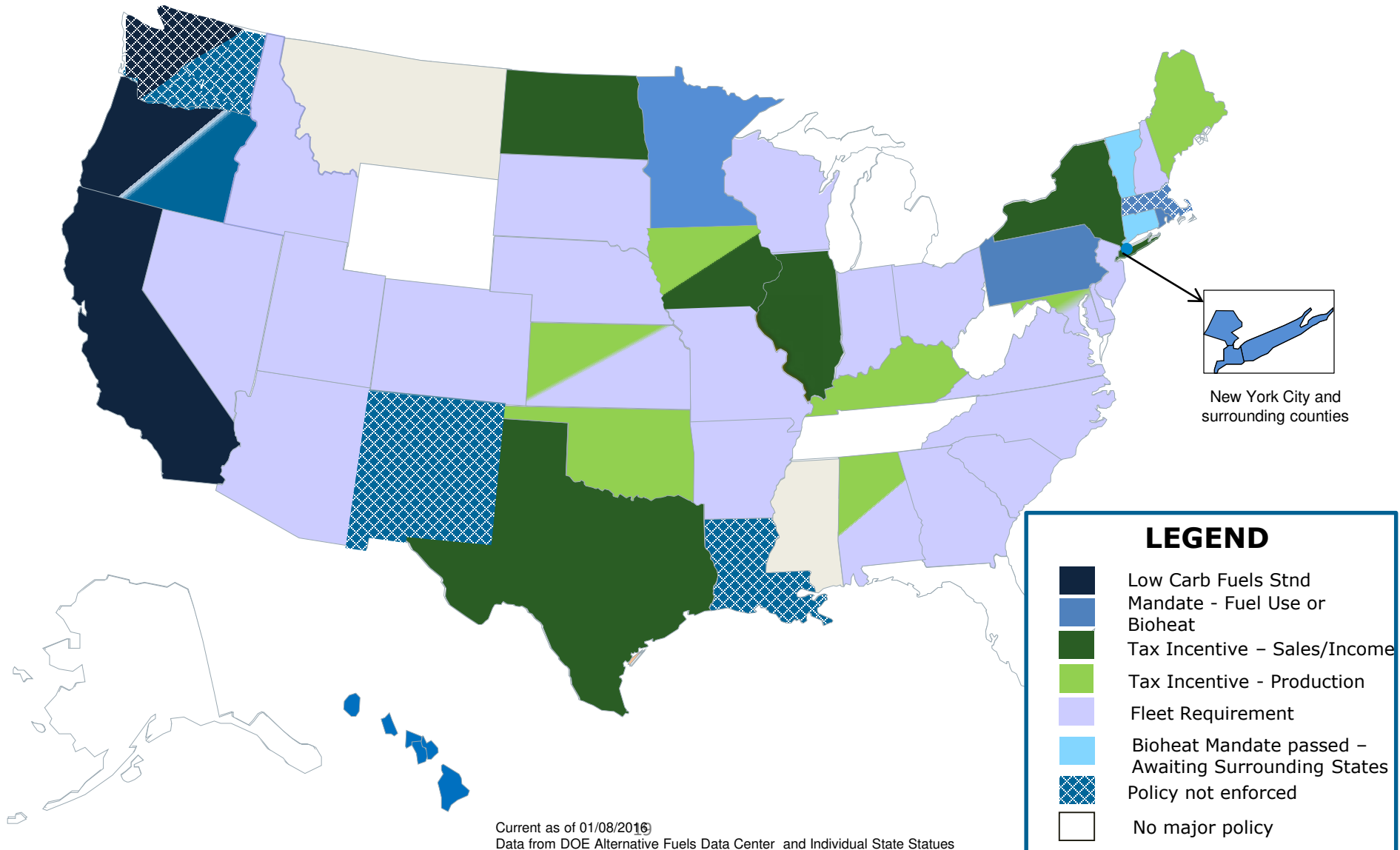
U.S. Retailers Selling Biodiesel Blends of B10 to B20





Biodiesel Blending Economic Considerations

States with Notable Biodiesel Policies 2018



Biodiesel Blending Economics

No. 2 ULSD = \$1.65/gal

REG Plant Price (B99) = \$2.95/gal

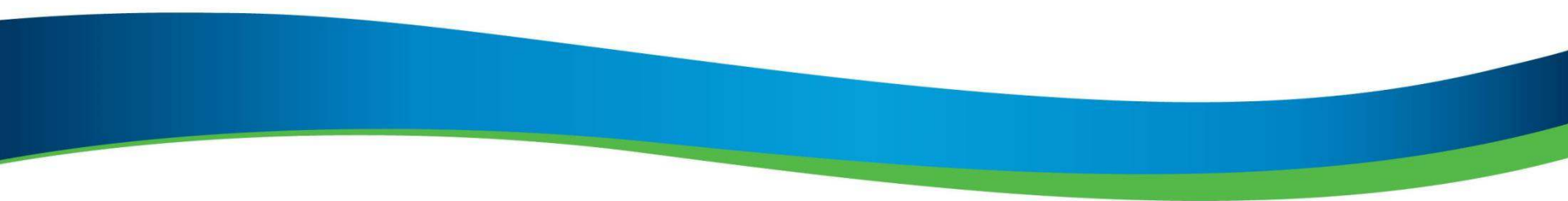
Less RINS Values (\$1.00) = (\$1.50)/gal

Net Biodiesel Price = \$1.45/gal

Additional saving potential if Blenders Tax Credit is reinstated and retroactive for 2017.

B20 Fuel Efficiency

- Four published studies showed no statistically significant difference between the fuel efficiency of B0 and B20
- The absolute difference in actual averages, without accounting for variance, showed a small improvement to a small decrease
- Theoretical energy content of B20 is 1.3% less than petro diesel
 - B20 performs better than theory suggests
 - Improved combustion and better lubricity



Five steps for successful fleet integration and vehicle use

Step One



Consider your comfort level with blending

- Do it yourself — invest in dedicated biodiesel system:
 - Dedicated biodiesel tank (>10,000 gallons).
 - Piping that allows biodiesel and #2 ULSD tanks to feed the dispenser B5-B20 blends.
 - Manages flow of correct blend to dispenser.
 - Telemetry that allows store to digitally change blend quickly.
- Buy B5-B20 blended product off the rack or direct from producer

Step Two



Confirm the quality of your biodiesel supply

- Meet ASTM D6751 standards
- Produced by a BQ-9000 accredited producer
- If purchasing fuel direct, always request a CoA
- Work with a producer that will provide technical support

Step Three



Determine your blend-level

- If you're hesitant, start at a B2 and step up to B20 over time
- If starting in cold weather, consider starting at a lower blend
- If emission quality is a key driver, start at a higher blend

Step Four



Educate your employees

- Make sure everyone understands the product and what to expect
- Educate people about the sustainability benefits of biodiesel

Step Five



Reap the benefits

- Reduced emissions
- Increase lubricity and engine performance
- Diverse fuel line-up
- Positive impact for employees, customers and communities



Case Studies

Case Study

G&D Integrated: The Situation



FOR-HIRE CARRIER and **THIRD-PARTY LOGISTICS** provider



Fleet of over **400 VEHICLES** travels up to **26 MILLION MILES PER YEAR**



More of its customers are emphasizing **ENVIRONMENTAL SUSTAINABILITY**



“Many of our customers analyze their entire supply chain for environmental impact, and some have even gone as far as incorporating sustainability into their purchasing departments.”



— **Vince Buonassi**

Group Manager of Transportation Programs, G&D Integrated

Case Study

G&D Integrated: The Solution



FUELING WITH BIODIESEL BLENDS for several years



THOROUGHLY TESTED biodiesel before switching



USES B20 YEAR-ROUND, including winter



Biodiesel has **HELPED G&D WIN BIDS**



LOWER FLEET EMISSIONS



“There’s really no sense in fighting the tide of sustainability. A lot of other truck carriers will. At G&D, we feel it is our duty to be good environmental custodians, and it makes business sense for us.”



— **Vince Buonassi**

Group Manager of Transportation Programs, G&D Integrated

Harvard University: The Situation



FLEET STARTED RESEARCHING ALTERNATIVE FUELS
in early 2000s



MANY OPTIONS COST-PROHIBITIVE, including natural gas



STARTED USING BIODIESEL in 2004



2004: 35,000 GALLONS, 2016: 100,000+ GALLONS



90 DIESEL VEHICLES fueled by B20 blend year-round



“When we were presented with biodiesel, it was almost the simplest sustainable solution.”



HARVARD
UNIVERSITY

— **David Harris Jr.**

Director of Transit and Fleet Management, Harvard University

Harvard University: The Solution



WHEN AGGRESSIVE SUSTAINABILITY PLAN ADOPTED IN 2014, fleet was ahead of the curve



FROM SPRING 2015 – SPRING 2016, HARVARD FLEET'S USE OF BIODIESEL REDUCED:

- Hydrocarbon and sulfur dioxide by 20%
- Carbon dioxide by 15%
- Carbon monoxide by 12%
- Particulate matter by 12%



AWARD-WINNING COMMITMENT
2016 Environmental Merit Award from EPA



“Biodiesel has really helped improve the overall efficiency and quality of the diesel fleet ... We have been able to run our diesel vehicles over the 100,000-mile mark with no problem.”



HARVARD
UNIVERSITY

– **David Harris Jr.**

Director of Transit and Fleet Management, Harvard University

Case Study

Iowa DOT: The Solution



EXPERIENCED FILTER PLUGGING ISSUE at the dispenser



REG LAB ANALYZED fuel sample and filter



REG DETERMINED RARE PROBLEM with pipeline additive, not biodiesel



NO OTHER FUEL LAB had ever heard of issue



“REG has a world-class laboratory with world-class professionals working there. They’re always interested in getting to the bottom of [fuel-related questions] and their response is always timely.”



—*David May*
Fleet Manager, Iowa DOT



Rochester Public Transit: The Situation



52-BUS MUNICIPAL FLEET



1.1 MILLION miles and **1.7 MILLION** passengers per year



CLEAN AIR A PRIORITY for residents and city officials



BUDGET ALWAYS A PRIORITY as a public agency



“If people were to look out their windows and see black smoke pouring out of buses, that would not be acceptable. We are very sensitive to that.”



— **Tony Knaur**
Rochester Transit and Parking Manager

Rochester Public Transit: The Solution



FUELING WITH BIODIESEL since late 1990s



RECENTLY SWITCHED TO B20 to reduce emissions further



B20 17 CENTS/GALLON CHEAPER than petro in 2016



STRONG PERFORMANCE, including in winter



“We haven’t experienced anything negative with biodiesel. Since switching to B20, we’ve had no engine issues. We haven’t had any issues with fuel filters. And the lubrication from biodiesel has been a good thing given the lack of lubricity in modern diesel fuel.”



— **Roger Ritchie**
Rochester Public Transit Manager



Questions?

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