EESI / American Biogas Council Briefing The Benefits of Leveraging Renewable Natural Gas (Biogas) as a Transportation Fuel







May 22, 2019

The Love's Family of Companies





- Founded 1964, headquarters in Oklahoma City
- 475 travel stops in 41 states, 22k employees

Commodity supply, trading, and logistics



- 750+ trucks fueled by RNG, biodiesel and renewable diesel
- Delivery of fuel and other products to Love's stores nationwide









- Alternative fuels: RNG, hydrogen, solar & EV charging
- Turn-key engineering, construction, operations & maintenance

Supply gasoline, diesel, ethanol, DEF, biodiesel & renewable diesel

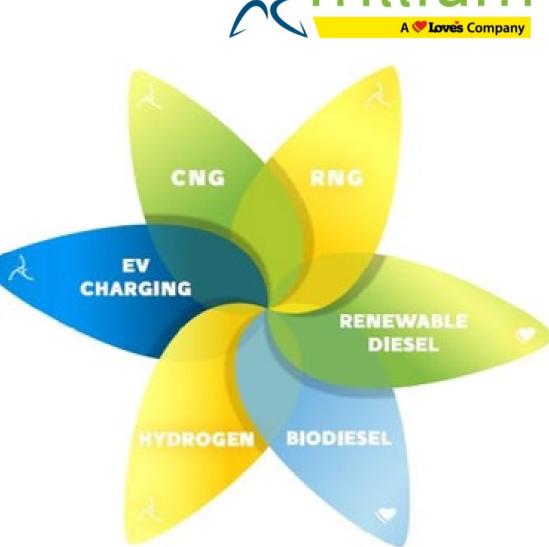
- On-site power generation with energy storage solutions
- Inspection & preventative maintenance services heavy-duty trucks
- 52 nationwide service stations and 25+ years experience

Alternative Fuel Specialists



Trillium is focused on building low-carbon transportation infrastructure.

We work with our clients to identify the fuel and power supply sources that work best for their goals and objectives, balancing cost, reliability, deployment schedule, sustainability goals, location, and scale.



We understand the cost and benefit of deploying clean transportation solutions.

Renewable Natural Gas (RNG)



RNG is the perfect alternative fuel It turns our waste into hydrogen, electricity, LNG and CNG

An American Fuel

Sourced by American Labor using American Technology



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Renewable natural gas is produced in every U.S. state. 34 states produce geologic natural gas



4.1 million

 4.1 million natural gas industry jobs nationwide



#1

America is the world's leader in natural gas production and technology



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Natural gas fueling pays into the federal highway trust fund

RNG is the most versatile alternative transportation fuel.

RNG Benefits



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RNG Growth



RNG production accounts for approximately 95% of the cellulosic (D3) category.

RNG as a transportation fuel is...





Lowering greenhouse gas emissions equivalent to removing

1,539,565

gasoline passenger cars from our roads for one year



Reducing CO₂ emissions equivalent to 815,950,377 gallons of gasoline or 712,313,458 gallons of diesel consumed.



Sequestering carbon equal to growing



tree seedlings for ten years



or 8,534,274 acres of U.S. forests for one year

6

This assumes RNG production has reduced 7,251,351 metric tons of CO₂e in the last 5 years

In 5 years RNG use has increased 577% displacing over 7+ million tons of CO₂

Engine Technology



The RNG engine technology (r)evolution

ISL G NZ (8.9L) Now CARB & EPA Certified to 90% below existing standard ISB6.7 G (6.7L) To be CARB & EPA Certified to 50% below existing standard ISX12 G NZ (11.9L) To be CARB & EPA Certified to

90% below existing standard







2016



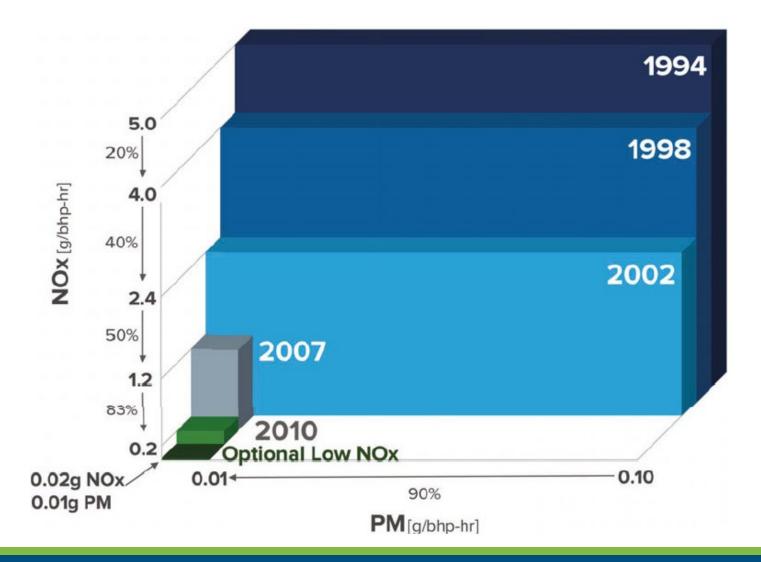


*Information provided by Cummins Westport

The Cummins Westport engines have evolved; solving earlier challenges.

NZ Technology Perspective

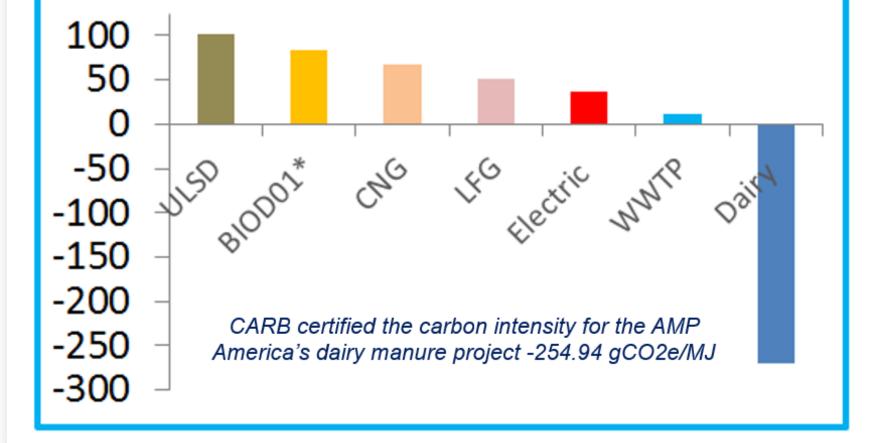




1,000 trucks (2019) emit the same amount of NOx as ONE (1) truck from 1987

Fuel carbon intensity includes lifecycle





The lower the carbon intensity, the cleaner the fuel.

Thank you

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