



AUTOGAS ANSWERS

Your Fleet Fueling Needs

Greg Zilberfarb





Propane Education & Research Council

- Authorized by the U.S. Congress.
- Funded by 5/10-cent per gallon assessment.
- Governed by 21-member industry board of directors.
 - 9 appointed by National Propane Gas Association.
 - 9 appointed by GPA Midstream.
 - 3 public members.
- 29 staff and 100+ Member Advisory Committee.





Everyday, propane buses transport almost 1 million students across the U.S.

Over 18,300
propane
school buses
are on the road



Carrying approximately
1,118,700
students/day

In the fleets of
approximately



930 school
districts, private
schools and bus
contractors

The Lowest Total Cost-of-Ownership

- Complete lifecycle analysis.
- 3 F's: Fuel, Filters, and Fluids.
- Maintenance and repairs.
- Labor and wages.
- Fuel handling and storage.
- Garages and facilities
- Refueling infrastructure.



Non-toxic and a non-contaminant of
air, soil, and water resources.

1980

- Diesel is a great fuel.
- Diesel engines last forever.
- No one cares about emissions.
- Propane buses are not available.



2019

- Diesel is an endangered fuel.
- Diesel engines breakdown a lot.
- Everyone cares about emissions.
- Propane buses are available from all of the major OEMs.

Emissions Reduction

Light-Duty Trucks



*Assumed annual mileage: 11,400. Fuel economies based on 2016 AFLEET data.

Emissions Reduction

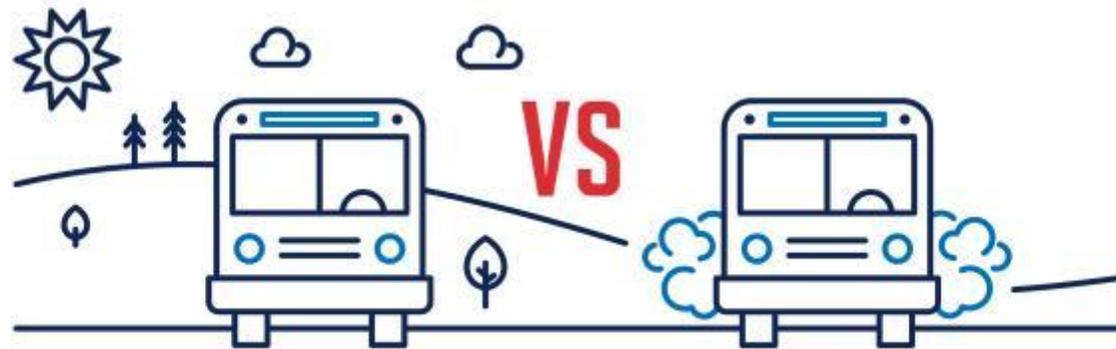
Medium-Duty Trucks



*Assumed annual mileage: 20,000. Fuel economy based on propane industry data.

Emissions Reduction

96% NOx REDUCTION
VERSUS CLEAN DIESEL BUS



Source: 2018 West Virginia University study, comparing 2015 LPG Blue Bird School bus (6.8L, 10 Cylinder) with 2014 ultra-low sulfur diesel Blue Bird school bus (6.7L 6 cylinder).

Emissions Reduction

A Georgia State study says diesel school bus fumes drive down test scores



Source: July 18, 2019 Atlanta Journal-Constitution).

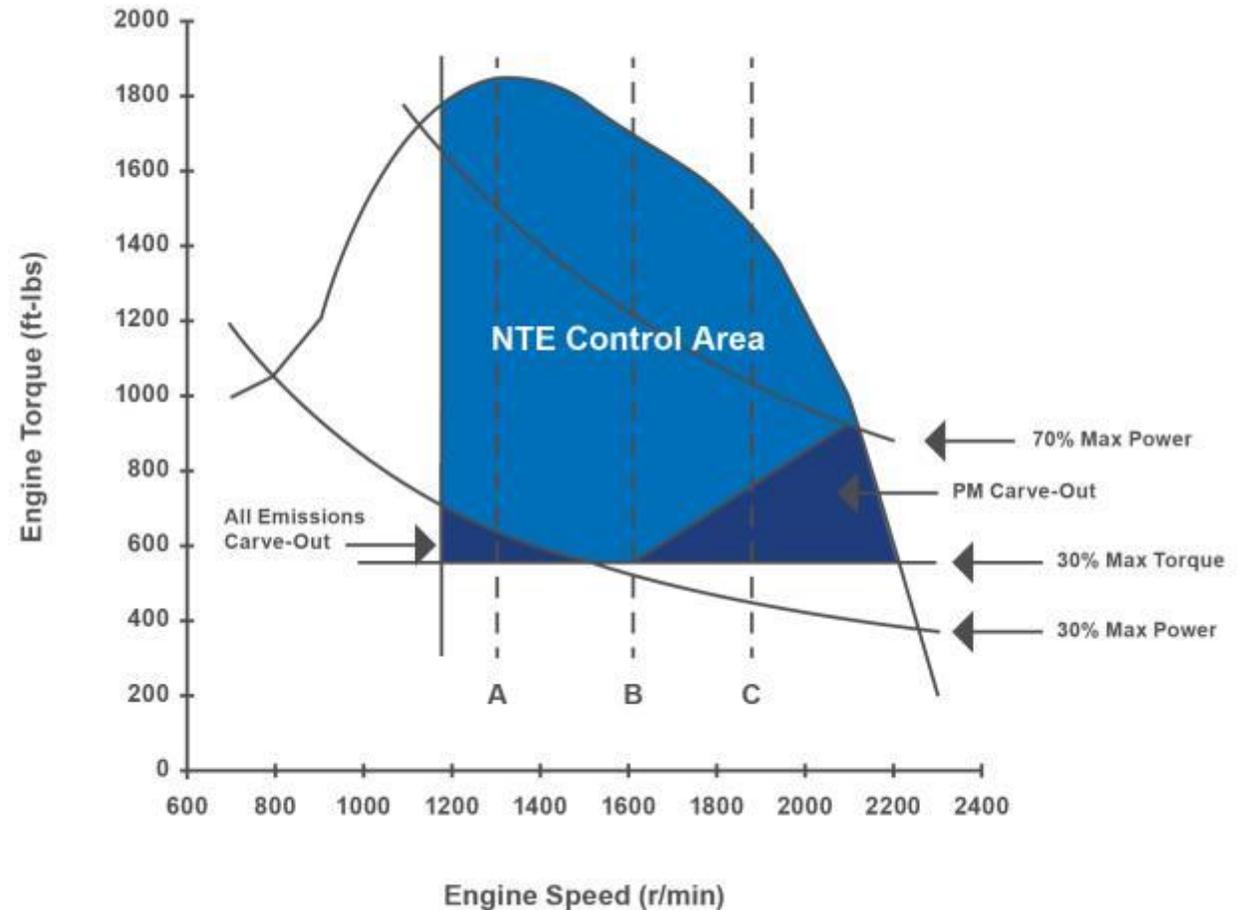


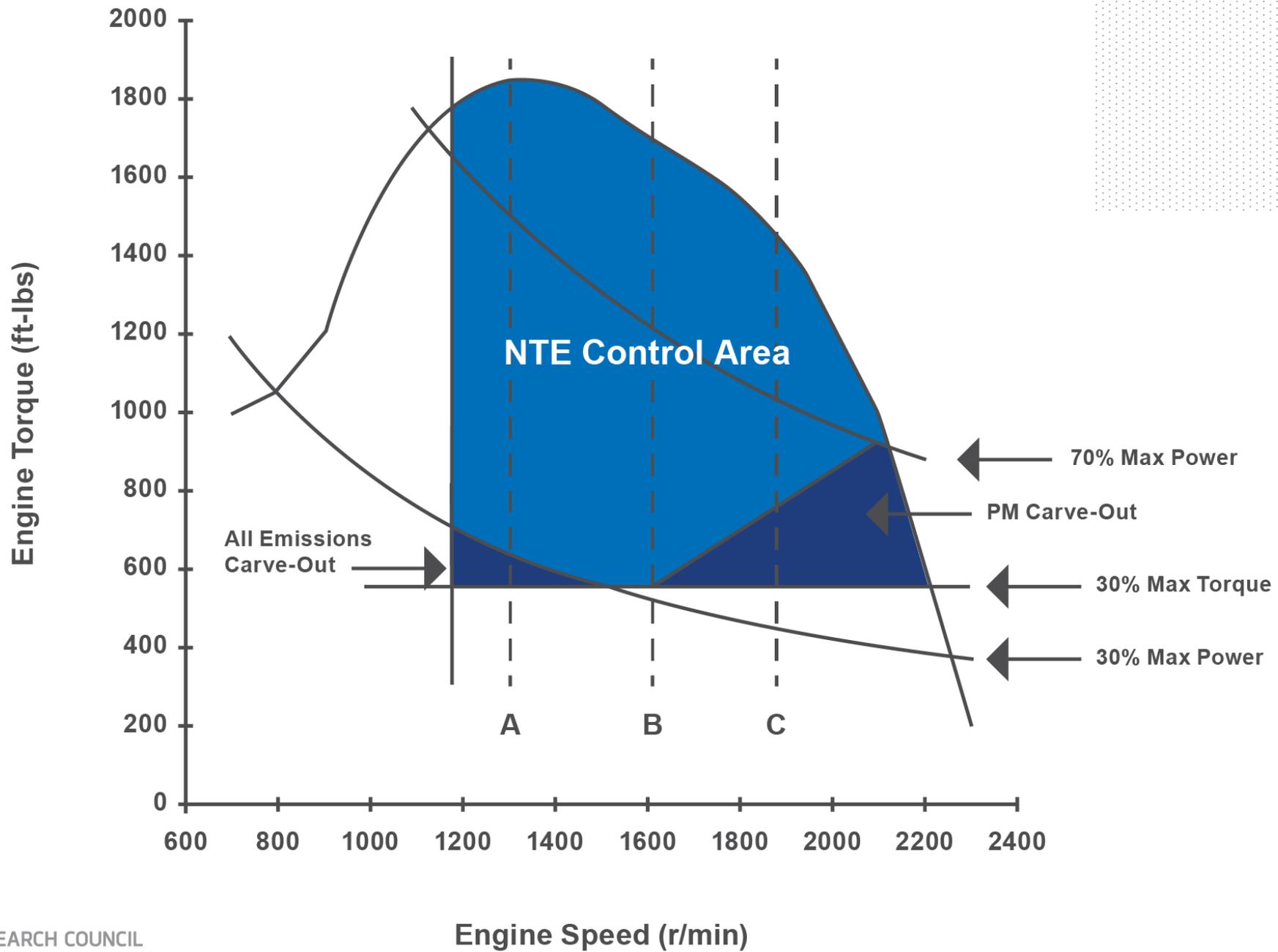
Why Propane Vehicles Work Great

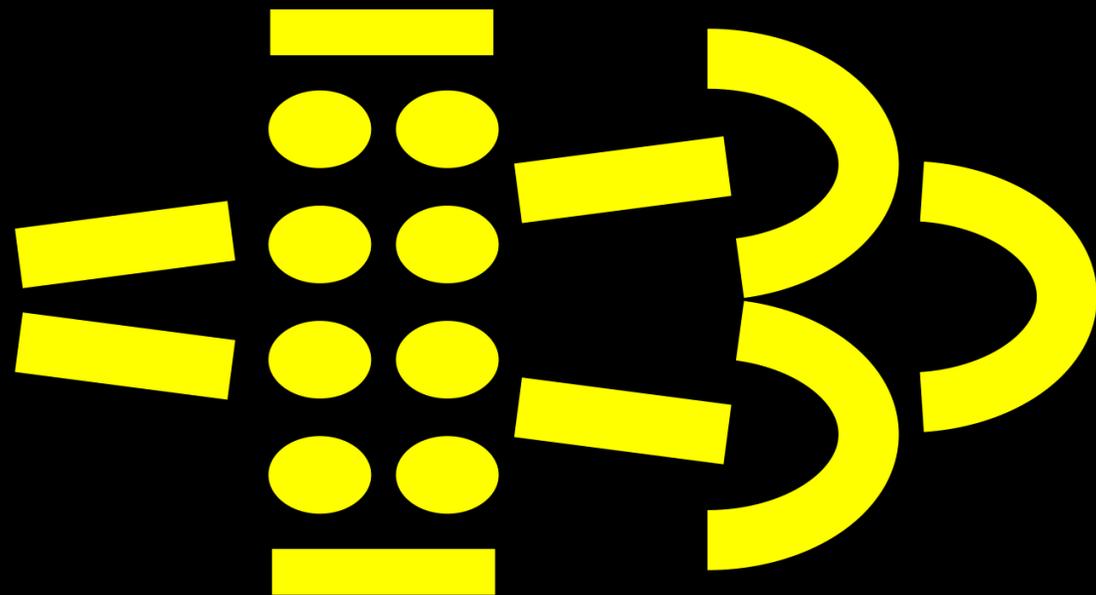
- Propane is an excellent choice for Class 4-7 medium-duty trucks and buses.
 - Propane provides the lowest NOx in these classes.
 - Propane maintains NOx control under real-world conditions, even at low temperatures.
 - Propane improves the performance of direct injection engines.
 - The next generation of purpose-built propane engines will be class-leading.
- 

Not-To-Exceed Control Area

- Diesels subject to Not-to-Exceed (NTE) limits during in-use testing.
- Outside the NTE Control Area, in-use emissions are essentially unregulated.
- Low engine speeds and loads are outside NTE area.
- NOx aftertreatment becomes ineffective when exhaust temperature is low.









Navigate Your Refueling Options

- Whether you have 10 fleet vehicles or 100, propane autogas has a refueling infrastructure option to fit your needs.
- Whichever setup you choose, you're sure to save money on total cost-of-ownership and keep your fleet efficient.

Call your infrastructure provider for more information about any of these options, and your local propane retailer for information regarding fuel.



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PROPANE

AUTOGAS

MASSACHUSETTS
S18-443
COMMERCIAL

WE STOP AT RR CROSSINGS



PROPANE
SUPERIOR ENERGY



NO SMOKING

PROPANE VEHICLE FUEL

EMERGENCY
NOTIFY VALVE
CALL 703-633-3333

SUPERIOR ENERGY
WWW.SUPERIOR

POWER
PROPANE AUTO



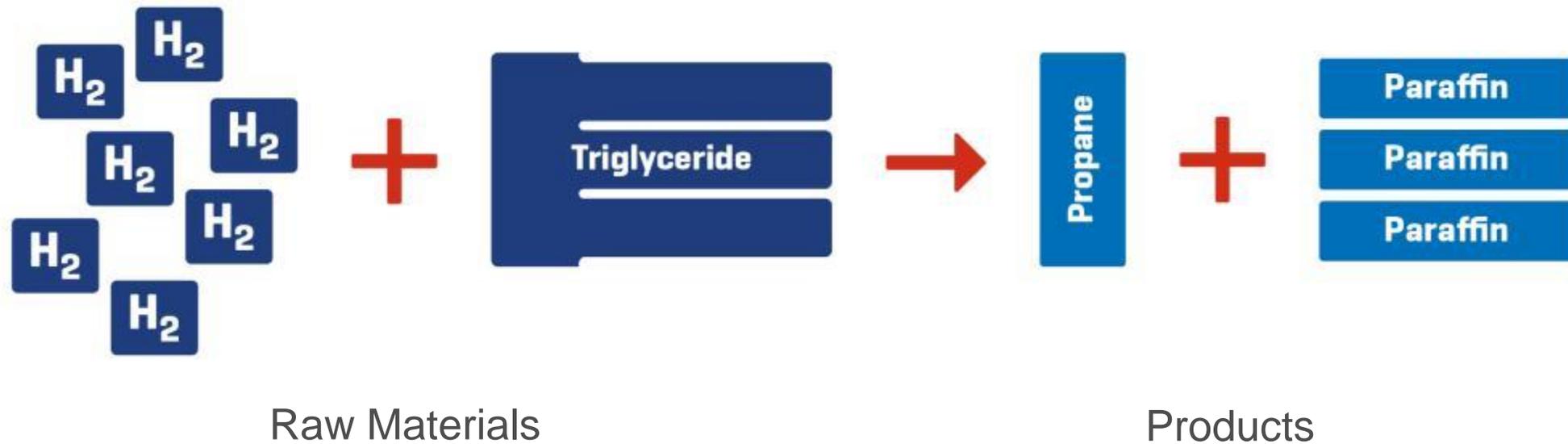
PROANE
AUTOGAS
CLEAN AMERICAN ENERGY





How Do We Make Renewable Propane?

Renewable propane is **hydrocarbons** made from biological oils and fats (**triglycerides**) by **hydrotreating**.



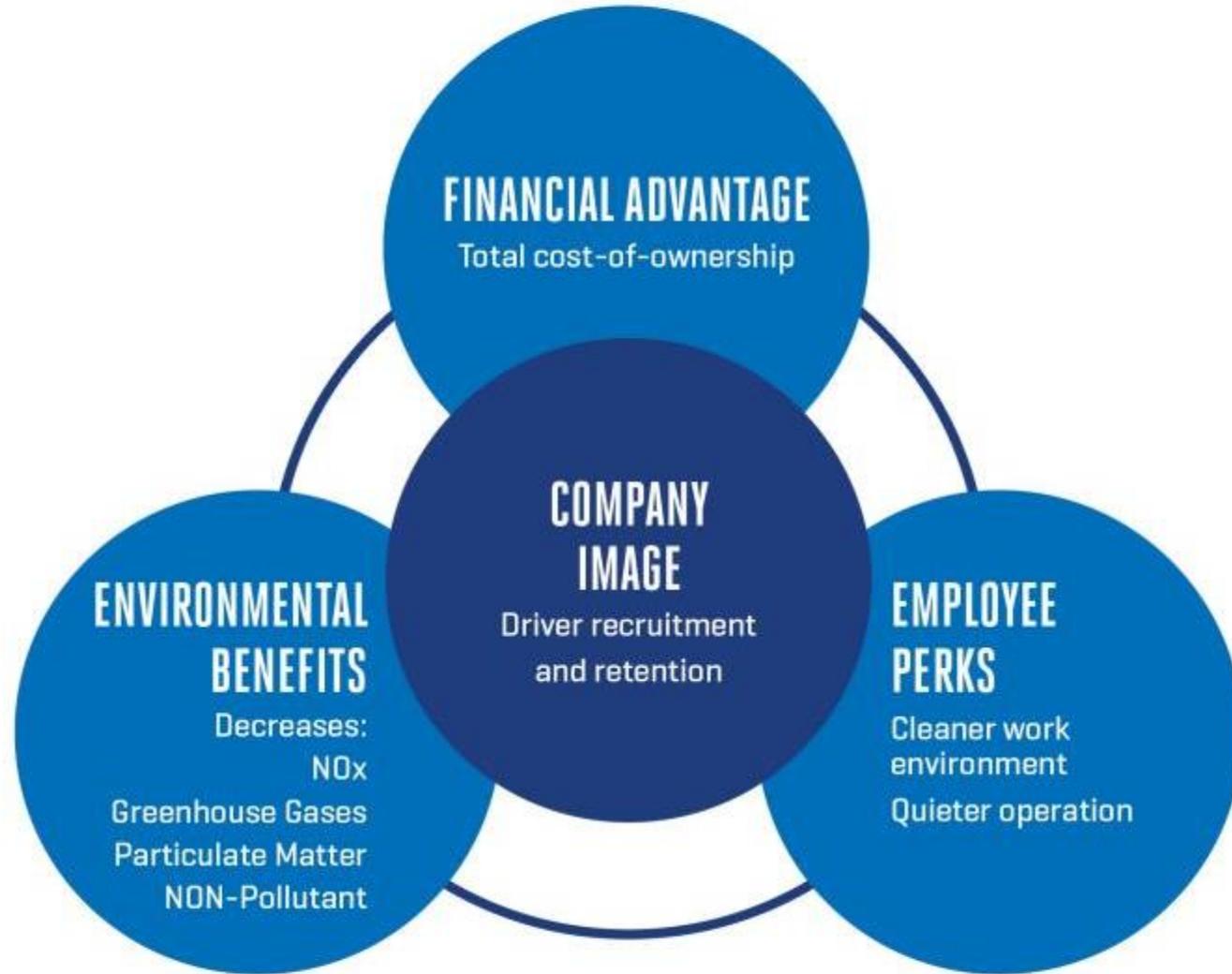


Customer Testimonial

“Propane gives us the ability to buy a vehicle that performs almost exactly like all of our [conventionally fueled] technologies. It’s almost seamless for us.”

Bill Spraul
Chief Operating Officer
San Diego Metropolitan Transit System





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