Propane Autogas Vehicles

Fact Sheet

Readily Available and Abundant

- More than 27 million vehicles travel worldwide with propane autogas[1] in their fuel tank, including school buses, taxis, paratransit shuttles, delivery and construction trucks, and more.
- There are thousands of propane autogas fueling stations in the U.S., with stations in every state.
- Many fleet managers elect to install low- or no-cost on-site fueling infrastructure, eliminating trips to off-site stations.

Health and Environment

- Vehicles that run on propane autogas emit fewer greenhouse gases, smog-producing hydrocarbons and particulate emissions than conventional fuels.
- Propane autogas is naturally lower in nitrogen oxides (NOx) than diesel and gasoline. NOx emissions are federally regulated due to their negative impact on human health and the environment. They can trigger health problems, such as asthma, bronchitis and other respiratory issues, and environmental problems, such as acid rain and deteriorated water quality.
- According to a West Virginia University study released in 2019, propane autogas school buses reduce NOx by at least 95%. In real world driving applications, diesel emissions are **15 to 19 times** higher than with propane.
- A 2019 Georgia State study found that diesel fumes drive down test scores. The study correlated increased academic performance to lower levels of emissions.
- The Ford 7.3L V8 engine equipped with a ROUSH CleanTech fuel system is certified to the ultra-low NOx level of 0.02 grams per brake horsepower-hour. This engine (used in Blue Bird Type C school buses and Class 4-7 Ford commercial vehicles) is 90% cleaner than EPA's most stringent heavy-duty engine standard.
- Vehicles fueled by propane autogas reduce noise levels by about 50% when compared to diesel, reducing noise in communities and allowing drivers to focus more on the road ahead.

Economics

- On average, propane autogas costs about 50% less than diesel and 40% less than gasoline.
- Maintenance service and costs are reduced due to the fuel's clean operation.
- Propane removes the complexity and cost of after-treatment measures since it doesn't require additional fluids or filters; exhaust after-treatment or diesel emissions fluids; particulate trap systems; turbochargers or intercoolers.
- Propane vehicles have no cold-start issues and warm up quickly. Fleet operators report saving time and money on equipment and staff.
- Propane autogas fueling infrastructure costs less than any other transportation energy source — conventional or alternative.

[1] Propane autogas is the internationally recognized term for propane when used in on-road engines.

- Since propane is classified as an alternative fuel by the Energy Department, there are a number of incentive programs to encourage adoption, including the 2021 infrastructure bill, government grants, VW settlement funding, market-based incentives (low-carbon fuel standards) and tax credits.

Safety and Performance

- Propane autogas is a nontoxic, non-carcinogenic and non-corrosive fuel classified as a non-containment by the Environmental Protection Agency.

- Propane autogas vehicle fuel tanks are 20 times more puncture-resistant than gasoline or diesel tanks. They are constructed from carbon steel in compliance with the American Society of Mechanical Engineers.

- Unlike gas or diesel, propane autogas is part of a close-looped system, meaning the fuel is never exposed to air and won't spill.

- Vehicles equipped with ROUSH CleanTech's propane autogas fuel systems retain equivalent horsepower, torque, towing capacity and warranty coverage as gas and diesel counterparts.

- Class 4-7 propane autogas vehicles can achieve a range of up to 350 miles on a single fueling.

- At 8 to 10 gallons per minute, fueling with propane autogas is comparable to gas and diesel fueling.

Domestic Resource

- Propane autogas is a leading alternative fuel in the United States.

- More than 90% of the United States propane autogas supply is produced domestically, with an additional 7% from Canada, making it stable and readily available.

- Almost 75% of propane used in the U.S. comes from natural gas refining, and the remaining comes from petroleum during the refining process.

- Renewable propane, developed from animal fats, cooking oils and wood byproducts, is identical to conventional propane and currently being used to fuel propane vehicles.

Organizations Choose Propane Autogas

ROUSH CleanTech has deployed over 37,000 Ford vehicles and Blue Bird school buses fueled by advanced clean transportation to fleets across America, including:

- **Private fleets** such as Bimbo Bakeries USA, Frito-Lay, Nestlé Waters and U-Haul.
- **Government municipalities** like King County, Washington, and the Cities of Santa Ana and Santa Monica, California.
- **Transit agencies** such as South Carolina's COMET, Greater Cleveland Regional Transit Authority, Flint Mass Transportation Authority, West Palm Beach Transit and SMART in Michigan.
- **School districts**, including Boston Public Schools, East Chicago Public Schools, Florida's Broward County Public Schools, and Detroit Public Schools.

Learn More

- ROUSH CleanTech: ROUSHcleantech.com
- Propane Education & Research Council: propane.com
- Department of Energy's (DOE) Clean Cities: cleancities.energy.gov
- DOE Office of Energy Efficient and Renewable Energy: afdc.energy.gov
- World LP Gas Association (WLPGA): auto-gas.net

(February 2022)