

Readily Available and Abundant

- More than 28 million vehicles travel worldwide with propane autogas¹ in their fuel tank, including school buses, taxis, paratransit shuttles, delivery and construction trucks, and more.
- There are about 2,500 propane fueling stations in the U.S., with stations in every state.
- Many fleets elect to install propane fueling infrastructure on-site, which is low- or no-cost with a fueling contract.

Health and Environment

- Vehicles that run on propane emit fewer greenhouse gases, smog-producing hydrocarbons and particulate emissions than conventional fuels. In fact, propane engine technology has progressed to the point where emissions are reduced to near zero.
- Propane vehicles powered by ROUSH CleanTech can operate on [renewable propane](#), which is propane from non-fossil fuel sources like cooking oil and wood byproducts. At the point of combustion, renewable propane is carbon neutral, meaning no new carbon is added to the atmosphere. This makes renewable propane an ultra-low carbon intensity fuel.
- Propane autogas is naturally lower in nitrogen oxides (NOx) than diesel and gasoline. Diesel emissions are **15 to 19 times** higher than with propane according to a [West Virginia University study](#).
- The Ford 7.3L V8 engine equipped with a [ROUSH CleanTech](#) fuel system is certified to the ultra-low nitrogen oxide (NOx) level of 20 mg/bhp-hr (milligrams of pollutants per brake horsepower hour), making them ready to meet Environmental Protection Agency and California Air Resources Board's 2031 standard.
 - o This engine (used in Blue Bird Type C school buses, Micro Bird G5 and Class 4-7 Ford commercial vehicles) is 90% cleaner in NOx than EPA's most stringent heavy-duty engine standard.
- Vehicles fueled by propane reduce noise levels by about 50% when compared to diesel, reducing noise in communities and allowing drivers to focus more on the road ahead.
- Propane is a low-carbon alternative fuel that can produce significantly fewer greenhouse gas emissions than diesel, gasoline and electricity in a wide range of applications.
- A [2024 study](#) conducted by the National Renewable Energy Laboratory and Drive Clean Colorado found the following when comparing diesel delivery trucks to propane models:
 - o 98% reduction in tailpipe nitrogen oxide emissions.
 - o 18.9% reduction in combined tailpipe and production carbon dioxide emissions.

¹ Propane autogas (or LPG) is the internationally recognized term for propane when used in on-road engines.

- o Virtual elimination of tailpipe sulfur oxide emissions.
- o Savings of \$20,000 per vehicle in the first 12 months.

Economics

- On average, propane autogas costs about 50% less than diesel and 40% less than gasoline.
- Maintenance service and costs are significantly 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, saving time and money on equipment and staff.
- Propane fueling infrastructure costs less than any other transportation energy source — conventional or alternative. Plus, most fleets lock in an annual per-gallon fuel cost for propane so price and supply remain consistent, allowing for better budgeting.
- Since propane is classified as an alternative fuel by the EPA, there are [incentive programs](#) to encourage adoption.
- The [2024 State of Sustainable Fleets Market Brief](#) reports that propane has proven its positive total cost of ownership year after year for applications such as goods and logistics, refuse, passenger transport, and medium-duty vocational service.

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 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 closed-looped system, meaning the fuel is never exposed to air and won't spill.
- Today's modern liquid-injected propane fuel systems offer improved performance, cold weather reliability and towing capacity.
- Vehicles equipped with ROUSH CleanTech's propane fuel systems retain equivalent horsepower, torque, towing capacity and warranty coverage as gas and diesel counterparts.
- Class 4-7 propane vehicles can achieve a range of up to 350 miles on a single fueling.

- At 8 to 10 gallons per minute, fueling with propane is comparable to gas and diesel fueling.
- 87% of fleet end users report equal or better performance of propane vehicles when compared to diesel or gasoline.
- To improve the safety of work environments, the American Federation of State, County and Municipal Employees (AFSCME) recommends replacing diesel-fueled engines with propane-fueled engines where possible.

Domestic Resource

- Propane autogas is a leading alternative fuel in the United States.
- More than 90% of the United States propane 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. This is material that would otherwise be wasted if not used as a clean alternative fuel.

Organizations Choose Propane Autogas

ROUSH CleanTech has deployed over 50,000 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 Santa Monica, California.
- **Transit agencies** such as South Carolina’s COMET, Greater Cleveland Regional Transit Authority, West Palm Beach Transit, South Dakota’s People’s Transit and Prairie Hills 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 Liquid Gas Association: worldliquidgas.org

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