



Case Study: HVAC Fleet Operates 100% on Propane Autogas

Company: Gibson's Heating & Plumbing

Industry: HVAC

Location: Waterloo, Indiana

Challenge: To find a certified alternative fuel fleet conversion solution with proven cost benefits.

By the Numbers:

- 38 propane autogas vehicles.
- \$8,857 in fuel savings per month.
- \$106,284 in annual fuel savings.

Background

Gibson's Heating & Plumbing was established in 1983 as a service company for residential and small business HVAC and plumbing customers in Northeast Indiana. Today, the company employs 55 employees and has a fleet of 38 trucks, all running on propane autogas.

Powered by Propane

In 2008 Gibson's Heating & Plumbing decided to look into ways an alternative fuel like propane autogas could benefit its fleet. The company was already familiar with the benefits of propane as a home fuel. Now the company explored propane-fueled vehicle options to cut fleet operation costs and establish a reliable fuel system.

Propane autogas vehicles can be dedicated (meaning they operate only on propane) or bi-fuel (meaning two fuel sources are stored onboard and the driver can switch between the fuels). Gibson's Heating & Plumbing started integrating propane into its fleet by purchasing conversion kits for its gasoline fleet vehicles to also run on propane autogas. They saw immediate cost saving. But since the vehicles now operated on both gasoline and propane, they required more maintenance.

In time, company employees realized they needed a more dependable vehicle with fewer chances of breakdowns. "Our service vehicles are out on the road all day, every day. We need them to be dependable," said Mark Gibson, company president. "Our

Ford dealer told us about the perfected performance of ROUSH CleanTech propane technology.” The company purchased 10 vehicles.

ROUSH CleanTech’s propane vehicles retain equivalent horsepower, torque, towing capacity and warranty coverage as gasoline and diesel counterparts and are certified by both the Environmental Protection Agency and the California Air Resources Board.

Economic Savings

On average, propane autogas costs about 50% less than diesel and 40% less than gasoline. The current price of gasoline is \$2.25 per gallon. Gibson’s Heating & Plumbing pays \$0.99 per gallon for propane autogas — a 56% savings.

To determine its economic success with propane autogas, Gibson’s Heating & Plumbing calculated fuel savings compared with gasoline vehicles. The company measured the average mileage traveled per vehicle and miles per gallon of the vehicle tank. In one year, it saved \$106,284 by operating propane vehicles, an average of \$8,857 per month in fuel savings.

The company continued tracking data (chart below). For the entire fleet, the company experienced a return on investment in three years.

Year	Miles Driven	Cost Savings
1	1,007,000	\$(216,715)
2	2,014,000	\$(110,431)
3	3,021,000	\$ (4,147)
4	4,028,000	\$ 102,137
5	5,035,000	\$ 208,421

Since propane is classified as an alternative fuel by the U.S. Energy Department, there are a number of state and federal incentive programs to encourage adoption. Gibson’s Heating & Plumbing received federal government alternative fuel tax credits of \$8,000 per vehicle over a two-year period.

Maintenance

The savings continued on the fleet service side. Propane vehicles cost less to maintain 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, particulate trap systems, turbochargers or intercoolers. Propane vehicles also require less oil changes and, as result, Gibson’s Heating & Plumbing has reduced its maintenance costs by 30% with propane vehicles. “ROUSH CleanTech’s propane

autogas fuel systems proved to work more harmoniously with the motor. Our vehicles require less maintenance,” said Gibson.

Although the company’s maintenance crew had previous experience with propane autogas, the team went through ROUSH CleanTech’s certification program to maintain the propane vehicles. They found general vehicle maintenance to be trouble-free.

The Power of Propane

With the addition of propane vehicles, Gibson’s Heating & Plumbing has also cut harmful emissions, benefiting both employee’s health and the local community’s air quality. Propane autogas is naturally lower in nitrogen oxides, which are federally regulated due to their negative impact on human health and the environment. The clean-operating vehicles also produce fewer greenhouse gases and smog-producing hydrocarbons, and no particulate matter.

The company’s propane vehicles are quieter, too, allowing the drivers to better focus on the road. Gibson added that during refills, his drivers don’t have to deal with “messy spills or smells” since propane is part of a closed-loop system, meaning the fuel is never exposed to air and won’t spill. Plus, at 10 to 12 gallons per minute, fueling is quick and a similar rate to gasoline.

Easy Infrastructure

Gibson’s Heating & Plumbing provides convenience for not only their customers, but for their employees as well. In addition to the company’s six fueling stations throughout Northeast Indiana, technicians have their propane vehicles fueled daily by Gibson’s “mini bobtail,” a Ford F-150 truck with a 125-gallon propane tank. The mobile propane dispenser travels to each technician’s house to fuel company vehicles in preparation for the next day’s routes.

The company is committed to staying a 100% propane fleet, with plans to add 10 more propane vehicles in the next two years.

(Case study completed in 2020)

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About Gibson’s Heating & Plumbing: Gibson's Heating & Plumbing is a family-owned, full-service plumbing and HVAC company serving Fort Wayne, Allen County, and other areas throughout Northeast Indiana, Northwest Ohio and Southern Michigan. The company offers a wide range of services for your home, including drain cleaning, water treatment, repairs, duct cleaning and more.

About ROUSH CleanTech: ROUSH CleanTech, an industry leader of advanced clean transportation solutions, is a division of the global engineering company Roush Enterprises. ROUSH CleanTech develops propane autogas and electric propulsion technology for medium-duty Ford commercial vehicles and school buses. With more

than 37,000 vehicles on the road, the Livonia, Michigan-based company delivers economical, emissions-reducing options for fleets across North America. Learn more at ROUSHcleantech.com or by calling 800.59.ROUSH.