Case Study: Propane Autogas Delivers Results for USPS Contractor

Company: McAbee Trucking, Inc.
Industry: Trucking
Location: Blacksburg, South Carolina

Challenge: To cut emissions, lead the industry in the use of alternative fuels and "do the right thing" for generations to come.

By the Numbers:

- 26 Ford-750 propane autogas trucks.
- 8,000 miles per vehicle per month.
- 16,000 gallons of propane per year per vehicle.

Background

McAbee Trucking was established in 1971 and currently serves as a United States Postal Service contractor, delivering packages between USPS locations in North Carolina and South Carolina. The company has 68 employees and a fleet of 63 vehicles, which includes a mix of propane autogas, compressed natural gas (CNG) and diesel trucks.

Powered by Propane

In 2014, Lisa McAbee, owner of McAbee Trucking, decided to investigate ways alternative fuels could benefit her company's fleet and the world beyond by shrinking its carbon footprint. "I want my grandkid's grandkids to have a clean environment," said McAbee. "I have breathing issues, as so many others do. I want to do more than my part to help."

Following the USPS's vision of working toward sustainability, McAbee began researching emission-reducing vehicles. Making an environmental difference was a priority, and the company's first alternative-fueled CNG trucks joined the fleet. "Everyone thought I hit the lottery the way I carried on," McAbee recalled. "I was so happy to start working with clean alternative fuels." Six additional Ford-750 propane autogas trucks from ROUSH CleanTech increased the impact. "ROUSH CleanTech allowed me to achieve goals even faster," she said. "I'm not doing this for honors or awards. I'm doing it because it's the right thing to do."

For McAbee, doing the right thing doesn't mean sacrificing performance: 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
Making the switch to alternative-fuel vehicles had to make sense financially. One factor in choosing propane vehicles was the low cost and easy installation of a propane fueling station. “Propane is very favorable for us economically,” McAbee said.

Despite the lack of state grant funding for propane vehicles, McAbee’s costs for the company’s propane-fueled trucks were substantially lower than the cost of diesel. Once on the road, propane saves 40% in total ownership costs versus CNG, and 60 to 70% in total ownership costs compared with diesel. McAbee takes advantage of the federal excise tax of 36 cents per gallon for propane usage. With the money saved overall due to propane’s efficiency, the company has upgraded its facilities, vehicles and parking lots.

Maintenance
With propane added to its fleet, McAbee’s leadership lauds the ease of maintenance. 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, intercoolers or regeneration. “Not having to worry about diesel regen is a huge bonus,” McAbee said. “Each regen can cost a couple thousand dollars. Diesel may call itself ‘clean idle,’ but it has so many problems.” Fueling with propane autogas gives McAbee savings in both time and money. And unlike with CNG, no special buildings are needed.

Maintenance tasks are more enjoyable for the company’s technicians, as well. “When they service our propane vehicles, there is no odor,” McAbee said. “Every oil change with diesel you smell like diesel.” In contrast, propane is a clean experience that requires no special service equipment.

McAbee Trucking’s team received training on fueling and how to use the shut-off valve. Since their launch, McAbee’s propane vehicles have been trouble-free to maintain. In the instances where the staff has needed help, ROUSH CleanTech has been responsive. “We are very satisfied with ROUSH CleanTech,” McAbee said. “We can always get in touch with them and they take away the stress.”

Powerful Results
With the addition of propane vehicles, McAbee Trucking is cutting harmful emissions, benefiting employees’ health and improving 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 propane vehicles performed during the pandemic, helping the company deliver more packages at a lower cost. “We delivered 40 to 50% more packages during the pandemic,” McAbee said. The benefits were clear again during the recent Colonial Pipeline crisis. “We didn’t have diesel issues like other organizations.” While other trucking companies faced fuel shortages, McAbee was able to keep delivering in propane vehicles.

Positive Response
McAbee drivers and leadership agree on the benefits of propane’s operation. Safety was demonstrated early on when one of the company’s employees first drove a propane truck. A boulder in the middle of the road broke the truck’s drive shaft, but the propane tanks remained

intact and the mail inside the truck was unscathed. “The safety of the propane vehicle was incredible,” McAbee said.

What’s more, the quiet operation has turned drivers into propane fans. “One of my senior drivers said he’d never drive a propane truck; he stayed with diesel. But then one day, he had to take one of our propane trucks out. Now he won’t go back to diesel and smiles every day doing his job.”

With trucks governed to a certain mile-per-hour speed and drivers trained to maximize fuel efficiency, the propane experience has been embraced by all at McAbee Trucking.

Fueling Options

To fuel the propane vehicles, the company started with mobile fueling, which involved a propane supplier fueling McAbee’s trucks directly from a propane delivery truck. The company added an on-site station with two propane tanks and are currently leasing property with plans to install a second propane fueling station there.

In addition to mobile fueling and onsite fueling, propane vehicles can also be filled at any of the thousands of public stations located throughout the U.S. McAbee Trucking has made use of all the fueling options: The company also uses public stations when routes run outside of their normal operations.

Propane fleet operators often discover that their local fuel supplier can install low- or no-cost propane infrastructure on-site as part of a fueling contract. Mobile fueling can even bring propane to drivers’ homes so they are ready each day to run their routes. For companies with limited space for on-site infrastructure, public stations are a viable alternative, and can be easily located through the U.S. Energy Department’s Alternative Fuels Data Center.

McAbee Trucking is committed to propane: Twenty new 2023 Ford F-750 propane trucks will replace aging diesel vehicles in the fleet in early 2022. “In warm and hot weather, in snow, sleet and wind,” McAbee said, “our propane vehicles work for us.”

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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.

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