

Q&A with Brian Feehan, Vice President, Propane Education & Research Council

1. How has the propane fueling infrastructure expanded in the last six months and what do you see as the future?

Ease of refueling is a strong factor that has accelerated the number of vehicles fueled by propane autogas on the road today to 270,000 in the United States, according to the Energy Department. Many fleet managers are realizing the advantages of installing an on-site refueling infrastructure. On-site propane autogas refueling stations are compact, easy to install and allow for safe and convenient refueling. Fleet managers can work with propane providers to determine the best refueling infrastructure options for their fleet.

Fleets also can refuel at one of the thousands of propane autogas refueling stations across the United States, including stations in every state according to the [Alternative Fuels and Advanced Vehicle Data Center](#), which makes propane autogas readily available.

There are more propane autogas fueling stations in the United States than there are fueling stations for any other alternative fuel, and many more are being installed throughout the year and into 2012. A Clean Cities grant for increased alternative fueled refueling infrastructure supports the installation of 250 additional propane autogas refueling stations across the country in 2011 and 2012.

2. Of the 270K vehicles fueled by propane autogas in the US, how many are work trucks?

The number of work trucks fueled by propane autogas is currently on the rise. A variety of both on-road and off-road platforms fueled by propane autogas are available including commercial mowers and forklifts, and light- and medium-duty trucks, buses, vans, shuttles, taxis, and police vehicles.

Propane Education & Research Council (PERC) research and development efforts for on-road vehicles are focused on developing products for commercial fleet applications. A growing number of work truck applications are entering the market including the Roush CleanTech liquid propane autogas injection system for the Ford F-450/F-550 platform unveiled at the NTEA Work Truck Show in early March. General Motors also is now offering new propane autogas options for the 2012 Chevrolet Express and GMC Savana cutaway 3500 and 4500 vans in partnership with CleanFuel USA. These new platforms join previously available Ford and General Motors trucks, passenger vehicles and cargo vans.

3. How do you see the number of work trucks using propane autogas changing over the next several years?

As requirements for fleets to achieve sustainability goals become more widespread, fleet managers are looking for efficient and cost-effective solutions for their transportation needs. They are finding a variety of vehicles fueled by propane autogas available today that not only meet environmental requirements, but also deliver high performance.

The market for vehicles fueled by propane autogas is gaining momentum as more fleet managers become aware of the environmental and economic advantages. PERC helps foster this growth through research, development and commercialization support. It also encourages the safe and efficient use of propane autogas through wide-ranging programs focused on safety and training. PERC's collaboration with manufacturers, researchers, and government partners strengthens technical knowledge and maximizes investments in developing new propane autogas vehicles and products available today, with eight platforms currently in development, the next several years will offer increased options of vehicles fueled by propane autogas for fleet managers.

4. Are specific vocational applications best suited to propane autogas?

The variety of available vehicles fueled by propane autogas provides options for fleets across industries. Light- and medium-duty trucks, buses, vans, and shuttles fueled by propane autogas are currently available, accommodating the majority of fleet applications including delivery vehicles, police and taxi fleets, and work trucks ranging from construction to municipality use. Fleet managers are aware of the high performance benefits of these vehicles, and are continually using them in new ways.

The ease of on-site refueling infrastructure for vehicles fueled by propane autogas is conducive for fleets returning to a central hub on a regular or daily basis, which is an operational model that spans industries.

5. What should commercial fuel end-users consider when considering alternative fuels and drives?

In addition to assessing the sustainability related to alternative-fueled vehicles, fleet managers should consider:

- **Variety and availability of vehicles** – Fleet managers currently have numerous platforms to choose from when considering vehicles fueled by propane autogas with eight platforms coming soon.
- **Anticipated performance to maintain productivity** – Liquid propane autogas injection systems offer the same horsepower, torque, and towing capacity rating as gasoline-fueled equivalents, while still reducing emissions. This includes 12 percent less carbon dioxide, about 20 percent less nitrogen oxide, and up to 60 percent less carbon monoxide than gasoline-fueled vehicles.
- **Ease of refueling** – From easy and economical installation of on-site refueling infrastructure to thousands of off-site refueling stations, propane autogas is widely available for fleet managers.
- **Cost associated with upkeep and maintenance** – Propane autogas burns cleaner in engines than gasoline and diesel, which results in longer engine life and reduced maintenance costs.

6. Is propane autogas a valid choice for small fleets and individual business owners? Where can they get fuel at a competitive cost?

Light- and medium-duty trucks fueled by propane autogas offer a viable alternative to conventionally fueled vehicles. The combination of robust propane autogas engine technology, increasing availability, and existing refueling infrastructure is building a strong case for fleet managers looking for an alternative fuel with vehicle performance and sustainability.

Fleet managers can contact their local propane autogas providers to determine what type of refueling infrastructure would best fulfill the needs of their fleet. Propane autogas providers also can counsel on the amount of fuel needed, the frequency of fuel delivery, and the size and scope of the infrastructure required for their fleet. Federal tax credits are available, including a 50-cent-per-gallon tax credit on every gallon of propane autogas used in a vehicle, and an alternative refueling tax credit that is available for up to 30 percent, or a maximum of \$30,000, of the installation cost of on-site infrastructure.

7. How do events like the Green Truck Summit and Work Truck Show help the promotion of propane autogas, as well as help build industry awareness?

Propane autogas is the nation's third-most common vehicle fuel after gasoline and diesel. As global demand for alternatives increases, more fleet managers are looking to propane autogas as a cost-effective solution when compared with conventional and other alternative fuels. The Green Truck Summit and NTEA Work Truck Show successfully connect fleet managers with vehicles fueled by propane autogas to demonstrate

the performance of the vehicles, the increased availability, variety of platforms, and refueling capabilities for fleet managers to consider.

One of PERC's manufacturing partners, CleanFuel USA, displayed a portable refueling platform in the PERC booth at the Work Truck Show to provide hands-on experience with the propane autogas refueling process and one of the options for on-site infrastructure.

Another PERC manufacturing partner, Roush CleanTech, launched a new Roush Ford F-550 propane autogas vehicle and participated in the Ride-and-Drive event at the Work Truck Show, providing fleet managers the opportunity to test drive vehicles and ask questions of the manufacturer and PERC personnel.

8. What is involved in establishing a captive propane autogas fueling facility in terms of:

- **Infrastructure**
- **Typical regulatory permitting**
- **Establishing a supplier (capacity of typical suppliers to support such a facility)**

Thousands of refueling stations make propane autogas readily available throughout the United States. Dealers are easily accessible and strive to make the refueling process as simple as possible for fleets. Local propane autogas dealers can assist fleet managers to determine the type of refueling infrastructure that will best fit the fleet, and how much propane autogas to purchase.

On-site propane autogas refueling stations are compact and easy to install and two types of platforms are available. A portable propane autogas refueling platform allows for safe refueling without the permanence of stationary systems featuring underground propane tanks. In a portable platform, also known as a skid-mounted system, an aboveground propane autogas tank, dispenser, pump, piping, and control panel are all mounted on a concrete or steel frame to create a portable unit that can be installed, removed, and relocated in a very short period of time.

Depending on storage necessity, longevity, and available space, underground storage tanks are also an option for longer-term use.

Fleet managers can contact local vehicle representatives and propane autogas dealers for information on specific regulatory requirements.

9. What would be a realistic budget figure for establishing a captive facility for 50-100 trucks?

The cost of installing a propane autogas refueling station is comparable to the cost of installing a gasoline or diesel refueling station. Though vehicle use varies considerably by fleet, an organization with 50 to 100 vehicles fueled by propane autogas would likely require a 4,000-gallon propane autogas tank. The cost of installing a portable aboveground platform would be approximately \$80,000 and take a couple of weeks for installation. A belowground, more permanent refueling tank and infrastructure would cost approximately \$95,000 and take about three weeks for installation, according to CleanFuel USA.

Federal tax credits are currently available for propane autogas infrastructure equipment placed into service before December 31, 2011. In addition to the tax credit for installing new propane autogas refueling structures, a 50-cent-per-gallon alternative fuel tax credit is available for fleet vehicles that run on propane autogas.