

One Small Step for Propane

WORLDWIDE, LIQUID PROPANE has found an important niche among alternative transportation fuels. Some 13 million vehicles around the globe currently use propane. Globally, more than 20,000 full-service propane refueling stations are in operation—a number that is growing at a 5 percent clip each year. And the number of propane-powered vehicles is expanding at an even faster pace—an estimated 8 percent to 9 percent per year. In Australia alone, 125,000 vehicles were converted to propane just last year.

In the United States, the propane story isn't quite as impressive. As Curtis Donaldson, CEO of CleanFUEL USA, jokingly notes, "Here, propane is the other white meat. It just doesn't get much attention." Less than 2 percent of U.S. propane production is used for transportation purposes. That anemic number translates into no more than 300,000 propane-powered vehicles—the vast majority of which are medium-

and heavy-duty trucks, buses and similar fleet vehicles. While somewhere north of 5 million propane-powered forklifts also operate in the United States, it's clear that propane is at best a minor player in this country.

Propane's advantages are simple enough to understand. At the time of this writing, the nationwide average price for a gallon of gas was \$2.52. The average for propane? \$1.65 a gallon. Propane also has a high octane rating, is relatively clean and presents minimal threats to soil, surface water or groundwater. Compared with vehicles fueled by conventional diesel and gasoline, propane vehicles produce less

harmful emissions and carbon dioxide.

Moreover, tax credits for the purchase of a dedicated propane vehicle can amount to thousands of dollars. (The credit is based on the difference between the purchase prices for a gasoline- or diesel-fueled vehicle and a propane-powered version of the same model.)

So, what's the problem? Why hasn't propane taken off yet in the United States? Most experts cite three primary challenges:

1. **Supply.** Produced as a byproduct of natural gas processing and crude oil refining, propane accounts for about 2 percent of the energy used in the United States. Rural areas that do not



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have natural gas service commonly rely on propane for everyday home needs. The chemical industry also uses propane as a raw material for plastics and other compounds. But less than 2 percent of U.S. propane goes toward transportation.

2. **Cost of conversion.** The \$6,000 to \$10,000 cost required to convert a single vehicle to propane is obviously a big barrier. Decent-size fleets of medium- and heavy-duty vehicles may bring enough economies of scale to lower the per-unit conversion costs a bit. But few consumers are willing to make the investment they would face to move toward propane. (Even so, some manufacturers—most notably General Motors' Chevrolet division—are boosting the number of light-duty vehicles on which they offer a propane option.)

3. **Infrastructure.** While it's true that thousands of propane stations are scattered throughout the country, most are for fleets and rentals (U-Haul facilities represent one example). And in many of those facilities, the propane is sold only in canisters or bottles. A good guess is that no more than 700 all-day, everyday propane refueling facilities are currently accessible to the general public for transportation purposes. And those facilities are not evenly distributed throughout the country. Rather, they tend to be concentrated on major interstates near



ConocoPhillips stations will be converted to accommodate many of the new propane fueling facilities funded by the Department of Energy grants.

large cities with a high percentage of fleets. If that's the current situation, is anything changing? Well, maybe. Even as most of Washington is focusing on renewable fuels, last fall the U.S. Department of Energy (DOE) awarded CleanFUEL USA stimulus grants totaling \$12.9 million to help establish more than 100 state-of-the-art liquid propane refueling stations in major U.S.

cities. Also partnering in the grants is ConocoPhillips, whose stations will be converted for many of the 100 locations. The DOE estimates the initiative will bring the equivalent of more than 3 million gallons of propane annually into the transportation system. The extra funds and the boost in distribution are not sufficient to dramatically change the balance of propane usage throughout the company. The grants, however, cleverly target highly fleet-oriented transportation hubs that are most likely to benefit, among them: Atlanta, Chicago, Houston, Denver, Sacramento, Kansas City, Los Angeles, San Antonio/Austin, Oklahoma City, St. Louis, Phoenix, Seattle, Dallas, Orlando, San Diego, Baton Rouge, Lake Charles and New Orleans. That means more bang for the 12.9 million bucks.

What's next? If this DOE program proves successful, it could inspire other targeted grants. And that could mean more propane-friendly hubs that could benefit more fleets.

But until the cost of conversion comes down and a rational basis emerges for domestic suppliers to boost production, don't expect to see propane take a major place in the transportation fuel mix. Fleet managers will first have to see a healthy grid of refueling locations, more engine families that can be economically converted and competent local service centers that can keep the vehicles running. 🚗

—Rick Long

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