PROPANE
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GOVERNMENT FLEETS REALIZE COST SAVINGS WITH PROPANE AUTOGAS

A PROPANE AUTOGAS CASE STUDY

ON-SITE DISPENSING OPTIONS PROVIDE EASY REFUELING FOR GOVERNMENT FLEET TRUCKS AND VANS

Two government fleets — the Department of Transportation for King County, Wash. (KCDOT), and the Indiana Department of Transportation (INDOT) — have added diverse on-site refueling methods for their fleet vehicles fueled by propane autogas. Infrastructure installation has allowed both to provide high-quality service with confidence in their refueling abilities.

The KCDOT Fleet Division, a sustainability leader among counties across the nation, has 16 vehicles fueled by propane autogas, functioning in a wide variety of centralized applications. Crews from units responsible for sign and traffic signal repairs, electrical and plumbing work, and road surveying are just a few that use the Ford F-250 and F-350 work trucks and E-250 cargo vans. KCDOT recently renovated the on-site dispenser at its headquarters to allow for more efficient refueling.

INDOT has converted nearly 600 of its light-duty vehicles to a bi-fuel system, using gasoline and propane autogas for its regional fleet. The high-performing vehicles are used statewide to transport highway maintenance crews, signal technicians, survey crews, and construction inspectors to job sites and projects. To allow for convenient, readily available refueling, regardless of where the vehicles are being used, INDOT installed refueling dispensers at 115 of its facilities across the state.

NETWORK OF REFUELING SITES

While these fleets have implemented refueling dispensers on very different scales, both have realized cost savings from installing an on-site refueling infrastructure.

Rising fuel costs were a factor for INDOT, which started exploring new ways to fuel its fleet of 2,300 light-duty trucks and vans in 2008 after gasoline and diesel prices increased.

"We were trying to figure out how to pay for fuel for the agency because we hadn't budgeted enough for gasoline and diesel, and didn't want to pass that cost along to taxpayers," Mark Ratliff, INDOT's director of agency results and forecasting, says.

INDOT implemented a comprehensive network of refueling sites and negotiated a fuel contract that saved significant taxpayer dollars; based on INDOT's figures, savings could exceed $1 million annually.

COMPANY

Indiana Department of Transportation — Indianapolis, Ind.

King County Department of Transportation — Seattle, Wash.

CHALLENGE & SOLUTION

To incorporate alternatively fueled vehicles with an easy refueling method into an existing fleet to help reduce costs associated with fuel and maintenance, and save taxpayer dollars.

RESULT

- On-site propane autogas refueling stations are compact and easy to install. The speed and ease of propane autogas refueling is comparable to that of gasoline and diesel.
- Thousands of off-site refueling stations across the United States make propane autogas readily available — and it is the only alternative fuel with stations in every state.
- Propane autogas burns cleaner in engines than gasoline and diesel, potentially resulting in longer engine life and reduced maintenance costs.
- Propane-autogas-fueled vehicles emit 12 percent less carbon dioxide, about 20 percent less nitrogen oxide, and up to 60 percent less carbon monoxide than gasoline-fueled vehicles.

INDOT has established 115 refueling sites statewide, which were installed by both the agency and contracted personnel. The refueling locations are strategically located at INDOT facilities, such that nearly all state highways are within a 30-mile radius of a refueling site. These locations provide convenient accessibility, regardless of the daily distances the vehicles travel.

Each refueling site has a 1,000-gallon tank accessible to drivers 24 hours a day; a fuel card issued to each driver provides dispenser access. The state has a sole-source contract with a propane autogas provider to facilitate fuel deliveries. As INDOT'S propane-autogas-fueled fleet expands, the agency expects to install larger tanks at refueling sites that have higher demand.

CENTRALIZED REFUELING

KCDOT has implemented propane autogas refueling on a smaller scale. It recently upgraded the on-site dispenser at its headquarters to speed up the refueling process for its growing number of propane-autogas-fueled vehicles. Propane autogas dispensers allow for easy and convenient refueling, with the cost of installation comparable to that of a gasoline or diesel refueling station.

The department provides fuel cards, enabling drivers to refuel at off-site commercial locations when needed. KCDOT has contracted with a local propane autogas provider to schedule regular deliveries and supply emergency fuel service, if necessary.

"With propane autogas, we can easily expand or change our refueling strategy," Bob Toppen, KCDOT equipment manager, says. He notes that the department is considering additional on-site refueling dispensers. "We've also noticed substantial fuel cost savings versus gasoline and diesel, and we are seeing a 50 percent reduction in fuel costs alone," Toppen adds.

Drivers in KCDOT's and INDOT's fleets have completed safety training sessions to learn the proper vehicle refueling procedures.

"Our fuel vendor provided initial training, while ongoing training is provided by the shop maintenance technicians, who also provide information to drivers on fuel-related questions," Toppen says.

REDUCED MAINTENANCE AND EQUIVALENT PERFORMANCE

Propane autogas burns hotter, cleaner, and more efficiently than gasoline and diesel, resulting in reduced wear to engines and potentially longer engine life. That can mean lower operating costs for KCDOT and other fleet customers.

"We are studying the positive effects of propane autogas and how we can further reduce maintenance costs," Toppen says. "Our technicians have eagerly accepted the propane-autogas-fueled vehicles, and there are no concerns from them on maintenance or repairs. We are looking into extending service intervals."

Both fleets are also closely monitoring vehicles' performance characteristics. INDOT has experienced a high level of vehicle performance, which has been confirmed by measuring torque and horsepower before and after conversion. The agency is establishing the necessary components to sustain the program for many years to come. More than 60 of its 200 repair technicians are trained in proper maintenance, repair, and diagnostics of bi-fuel propane autogas systems.

"It feels great to know that there's a viable option out there that isn't using gasoline," Joe Rudolph, INDOT's director of technical services, says. "It's great to drive a vehicle fueled by propane autogas. You can't tell any difference."

FOR MORE INFORMATION

To learn more about propane autogas and the Propane Education & Research Council, visit **autogasusa.org.**

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The Propane Education & Research Council was authorized by the U.S. Congress with the passage of Public Law 104-284, the Propane Education and Research Act (PERA), signed into law on October 11, 1996. The mission of the Propane Education & Research Council is to promote the safe, efficient use of odorized propane gas as a preferred energy source.

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