



IREDELL COUNTY DRIVES TO SUCCESS WITH PROPANE AUTOGAS

A PROPANE AUTOGAS CASE STUDY

Iredell County's dramatic changes in the terrain throughout its 600 square miles for its Sheriff's Office to patrol required a vehicle fuel that would provide powerful performance and a clean emissions profile. The county found a fuel that provides both in propane autogas.

Located in western North Carolina in the heart of the Brushy Mountains, much of the county consists of low mountains and hilly terrain — making vehicle performance paramount in order for the county's deputies to be able to reach residents in emergency situations. The southern portion of the county is, however, part of the Charlotte-Gastonia-Concord Metropolitan Area, which faces issues due to harmful air pollution common in large metro areas. Public officials throughout the county encourage the use of alternative fuels for their clean emissions profiles whenever possible to help temper the air pollution problems.

While emissions reductions were what initially attracted the ICSO to propane autogas vehicles, the county also saw propane autogas as a way to reduce its fuel budget when gasoline prices were soaring to more than \$4 per gallon just before 2010. The county learned that propane autogas could also provide its fleet (and the community it serves) with the fuel security required of emergency services.

Propane autogas bi-fuel vehicles were quickly seen as the solution to the county's law enforcement needs. Bi-fuel vehicles also run on gasoline with the flip of a switch, convenient for further travel or long days when a trip to refuel at the station isn't possible.

A BETTER BOTTOM LINE

From initial purchase to its monthly fuel budget, the switch to propane autogas vehicles has been a financial success story for the Iredell County Sheriff's Office. Sixty-five percent of its initial conversion cost of 13 Ford Crown Victoria cruisers to bi-fuel systems in 2010 was paid for by a Clean Fuel Advanced Technology grant through the North Carolina Clean Energy Technology Center.

Mike Phillips, a retired ICSO captain who works part-time writing grants for the office, said the department has since received two more CFAT grants and converted nearly 60 vehicles in total thanks to incentives provided by the North Carolina Clean Energy Technology Center.

COMPANY

Iredell County Sheriff's Office,
North Carolina

CHALLENGE & SOLUTION

Iredell County Sheriff's Office needed a way to cut costs in its vehicle fleet without sacrificing power when driving across the nearly 600 square miles in the hilly county. After hearing about propane autogas from a local retailer the office applied for and received a grant that helped them finance the conversion of 13 Ford Crown Victoria patrol cars from gasoline to bi-fuel in 2010. Although the department is now phasing out the Crown Victorias, it has continued adding to the fleet ever since.

RESULT

- Iredell County Sheriff's Office sees on average 40 to 50 percent fuel savings with its bi-fuel vehicles compared to gasoline.
- Access to propane autogas helped the department stay active during two gasoline shortages in the fall of 2016.
- The department's success also influenced the Iredell County Area Transportation System to convert four passenger vans to propane autogas.

CASE STUDY

IREDELL COUNTY SHERIFF'S OFFICE, NORTH CAROLINA

On an ongoing basis, fuel costs are lower, too, even as gasoline prices fell to the lowest prices seen in decades in 2016. Fuel costs for the department's propane vehicles are between 40 to 50 percent less than the cost of gasoline for the rest of its fleet with the use of a 2016 \$0.36 federal alternative fuel tax credit for each gallon of propane autogas used.

Phillips said dollars saved by using propane autogas helped fund programs that otherwise may not have been feasible, including the purchase of three fully-trained K-9s for nearly \$40,000 in 2015.

DRIVER TRAINING, PERFORMANCE CREATES BUY-IN

Chief Deputy Marty Byers said he was skeptical of propane autogas at first because he had only used propane as a fuel for cooking and recreation uses. But in the years since the office converted the first Crown Victoria's, he's seen how the vehicles truly benefit the department.

Like with Byers' initial reaction, there was some skepticism in the department because deputies weren't familiar with operating propane autogas vehicles and how they differ from gasoline cruisers. But demonstrations by their propane retailer helped ease worries. Deputies assigned to the propane autogas vehicles were all trained on refueling practices, too. Most important to quelling the deputies' uneasiness with the new vehicles is the fact that there isn't much difference when it comes to performance, maintenance, and refueling.

"It's turned out really, really good for us."

— Marty Byers

A SECURE FUEL

In addition to powerful performance required for law enforcement, propane autogas can also provide departments with more fuel security, whether that's insulation from cost fluctuations common with gasoline and diesel or to prevent issues during fuel shortages. The ICSO saw benefits with propane autogas when faced with both of these situations.

Byers said because the department had bi-fuel vehicles, they were able to continue regular operation when gasoline supplies to North Carolina were limited during fall 2016. A pipeline leak in Alabama had disrupted gasoline supplies and driven up costs for existing fuel for approximately two months. But the gasoline scarcity didn't affect the department as much as it did other fleets across the state.

Departments can further protect themselves from price fluctuations by establishing a long-term contract with a propane retailer that provides a set price per gallon.

Through their own fuel contract, Phillips said the county still pays approximately a dollar less per gallon for propane autogas compared to gasoline, and propane autogas provides a competitive ROI even though gasoline prices remain at their lowest levels in decades.



SIMPLE SERVICE

Servicing propane autogas vehicles is very similar to a gasoline, but even so the county's OEM and propane retailer helped train Fleet Services Department technicians on safe practices. The service team even moved conversions in-house to help find even more cost savings.

The success that the Sheriff's Department has experienced — from a cost, security, and service standpoint — with propane autogas vehicles is catching on in other facets of county transportation. In fact, its quantifiable savings operating with propane autogas encouraged Iredell Count Area Transit to convert four of its passenger vans to propane. In fact, Phillips said the county intends to add more propane autogas vehicles.

"I think you'll see a continuation of the conversion process," he said.

FOR MORE INFORMATION

To learn more about propane autogas, visit propane.com/on-road-fleets.

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