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FLORIDA SCHOOL DISTRICT GOES GREEN, SAVES GREEN WITH PROPANE AUTOGAS

A PROPANE CASE STUDY

INDIAN RIVER COUNTY SCHOOL DISTRICT BECOMES FIRST DISTRICT IN FLORIDA TO ADOPT CLEAN, AFFORDABLE PROPANE AUTOGAS SCHOOL BUSES

Indian River County School District, headquartered in Vero Beach, Fla., is made up of 27 surrounding schools. The school district was the first in Florida to adopt new liquid injection propane autogas technology, and currently operates 26 propane-autogas-powered buses and 85 diesel buses. The fleet transports approximately 9,550 students twice each day and services routes throughout the county.

TIGHTENING EMISSION STANDARDS

Indian River initially began researching alternative fuels in 2009 in order to comply with new EPA and CARB emissions guidelines. After looking at other alternative fuel options, the district decided to purchase three Blue Bird Vision Type C propane autogas buses and test them on its long distance, mid-range, and intercity routes.

“We weighed all of our options, and propane autogas just stood out and really worked for us,” said George Millar, Indian River’s director of transportation. “Propane autogas far exceeds



emission standards set by EPA and CARB, and burns much cleaner than gasoline or diesel.”

In fact, propane-autogas-powered buses emit 40 percent fewer emissions than gasoline, and 80 percent fewer than older diesel engines. In 2012, the World Health Organization classified diesel exhaust from buses manufactured prior to 2007 as a carcinogen that can have long-term health effects, especially on children.

“Propane autogas runs so clean that I can swipe my fingers around the edge of a tailpipe on a bus we’ve been running and there will be absolutely no soot residue on my hand — not even after extreme usage and many miles on the road,” Millar explained.

Thrilled with the fuel’s performance, Indian River has continued to replace its old diesel buses with new Blue Bird Vision propane autogas buses equipped with Roush CleanTech fuel systems and Ford 6.8-liter engines.

A GREEN-GREEN SOLUTION

At the same time new emission reduction standards were being put into place, Indian River faced significant government budget

COMPANY

Indian River County School District
 Vero Beach, Fla.

CHALLENGE & SOLUTION

The economic recession and stringent new EPA and CARB emissions standards prompted Indian River School District to adopt propane-autogas-powered school buses as a means to decrease its fuel costs and reduce its carbon footprint. Today, approximately 25 percent of the district’s school bus fleet operates on propane autogas, saving more than 50 percent on fuel costs when compared with diesel.

RESULT

- The school district realized ROI on its propane autogas school buses within eight months after deployment.
- One propane-autogas-powered school bus saves the district \$4,800 a year on fuel alone, totaling more than \$100,000 in fuel savings each year.
- Front-end engines on propane autogas school buses deliver peak performance on rural routes and dirt roads without clogging filters.

cutbacks and reduced funding. Originally, Indian River thought the cutbacks would prevent the district from making the switch to alternative fuels.

“There can be a large startup cost with some alternative fuels, and we didn’t have the budget for that, but we really needed a greener solution than diesel,” Millar said, “Fortunately, propane autogas was both inexpensive and environmentally friendly.”

New emissions guidelines required diesel buses to have additional expensive aftertreatment devices. According to Millar, the main benefit of propane autogas was that it didn’t require any additional parts or maintenance to meet emissions standards.

“The parts for propane autogas vehicles are much less expensive when compared with those of other alternatives or even diesel,” Millar noted. “There’s definitely a significant cost savings with propane autogas.”

Overall, the district reports seeing ROI within eight months of use and saving \$4,800 a year per bus on fuel costs with propane autogas when compared with conventional diesel.

EASE OF INSTALLATION

Indian River also considered total cost of ownership when choosing an alternative fuel. When Millar discovered that propane autogas required no modification to the district’s existing facilities and would cost very little to install infrastructure, it solidified his decision.

“Propane autogas infrastructure is much cheaper to install when compared with other alternative fuels,” Millar explained. “During budget cuts, we were looking to save money, not spend more money. Other fueling stations can cost up to a million and a half dollars, which was well over our budget.”

“There’s definitely a significant cost savings with propane autogas.”

— **George Millar**
Director of Transportation
Indian River County School District

On-site propane autogas infrastructure is compact and easy to install, and only requires a propane tank and no-spill low emission dispenser. Indian River currently operates a 1,600-gallon capacity propane tank and one-hose dispenser, but is looking to upgrade to an 18,000-gallon storage tank with two double-hose dispensers to service its growing propane autogas bus fleet.

“Upgrading propane autogas infrastructure is easy,” Millar said. “We can use the same pump and motor without changing facility requirements. Plus, schools can use state and federal incentives, when available, to help lower installation costs even further.”

PROPANE PERFORMANCE: A GAME CHANGER

Performance and reliability are critical for a school district like Indian River, which is accountable for safely transporting

thousands of students each day. Compared with similar diesel-powered engines, propane autogas has a high octane rating and equivalent horsepower and torque.

“One of the first things that the drivers noticed with propane autogas was its quick acceleration, even from a complete stand-still,” Millar said.

Additionally, Millar noted that the design and engineering of the district’s propane autogas school buses have been a fit for the district’s rural routes. Approximately 45 percent of the roads in Indian River’s routes are gravel or dirt.

“Rear engines tend to clog up the filters when driving on dirt roads,” Millar explained. “With a CNG bus, the engine is in the rear, so it collects a lot more debris. The propane buses are built with engines in the front of the bus like a traditional gasoline or diesel bus, which keeps things cleaner.”

Overall, the district has been extremely satisfied with the performance and ease of propane autogas, and has plans to continue growing its propane-autogas-powered school bus fleet.

“The performance of the liquid injection systems has really changed the game for propane autogas in the alternative fuel market,” Millar said. “It’s affordable, green, and safe, which makes it a perfect fuel for school bus fleets.”

FOR MORE INFORMATION

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

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