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QUALITY ASSURANCE

Before he delivers to the customer, Bourne takes steps to create a seamless experience for all. A certificate of analysis is presented from White Mountain Biodiesel that ensures all parameters of the current ASTM D6751 biodiesel specification are met. He puts the B99 into a separate 12,000-gallon tank. It is then injection-blended into the individual batches for customers, which ensures complete mixing of the B99 and the diesel fuel.

He points out cost is a factor with any fuel, and the RFS has been effective at making biodiesel more competitive. "We'll pay a premium for a renewable product, but the everyday consumer has a certain price point where they won't pay more," he said. "The economics have kept Bioheat competitive, and I like to think our customers look at us in a more favorable light for doing it."

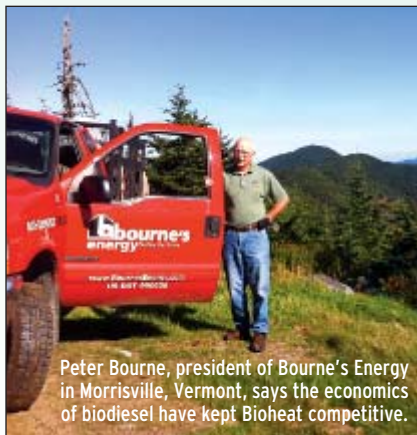
Made from an increasingly diverse mix of resources such as recycled cooking oil, soybean oil and animal fats, biodiesel is the first and only EPA-designated Advanced Biofuel with commercial-scale production nationwide. Last year the industry broke 1 billion gallons of annual volume.

"Biodiesel is living proof that Advanced Biofuels are available today and that they can reduce prices for consumers," said Paul Nazzaro, petroleum liaison for the National Biodiesel Board. "The RFS is working as intended to diversify our fuel supply and stimulate new technologies and jobs."

Biodiesel is produced in nearly every state in the country and supports some 50,000 jobs.

For Kuhsel, the biodiesel road is not one he regrets taking. He says the business is thriving, although there is always room for growth.

"I'd love to create more jobs and decrease more greenhouse gases," he said. "I have no regrets. I'd do it all again." ☒



Peter Bourne, president of Bourne's Energy in Morrisville, Vermont, says the economics of biodiesel have kept Bioheat competitive.

Device Improves Fuel Economy by Changing Fuel's Structure

UConn tests confirm savings of 9 percent or more from Fitch Fuel Catalyst

A CONNECTICUT COMPANY IS MARKETING

a fuel modification device that can help heating oil customers save 10 percent or more on fuel bills by deriving more heat from the fuel.

The Fitch Fuel Catalyst (FFC), created and marketed by Advanced Power Systems International, of Torrington, Conn., improves fuel performance by changing the fuel's molecular structure to generate more heat.

Chris Wright, APSI's Senior Vice President, told *Oil & Energy* the Catalyst

uses a patented metal alloy to reformulate the fuel as it travels from the oil tank to the burner. The Catalyst is a cylindrical canister that resembles an oil filter and is installed between the oil filter and the burner.

As fuel passes through the Catalyst, it comes in contact with the specialized metal alloys that temporarily reformulate the fuel. This reformulation causes the fuel to burn hotter, which allows a technician to reduce the nozzle to a smaller size while maintaining the same BTU output. The change in nozzle demonstrated a reduction in fuel consumption of 10 percent to 20 percent, according to Wright.

Having encountered the expected "snake oil" skepticism about the product, APSI has collaborated with a research team at the University of Connecticut to test and validate the results. UConn's Suib Research Group and CT Next, a Connecticut governmental agency, recently issued a report stating in part, "In the field test of both commercial and residential boilers the research team found fuel consumption was reduced by 9.1 percent to 20 percent."

"Members of the research team spoke with engineers who maintain large numbers of boilers for property management companies, and reviewed their data over multiple years tracking the performance of the boilers when outfitted with Fitch Fuel Catalyst units, the UConn report adds. "They found an average reduction in fuel consumption across all commercial installations of 14 percent.

"The research team noted that perhaps the biggest indirect indicator of fuel combustion savings from installation of the Fitch Fuel Catalyst is that all of the customers interviewed who are in a position to order successive units for other installations continue to purchase and use the Fitch Fuel Catalyst units."

Wright said the Catalyst, which is also marketed under the brand name GOSaver, can be installed on any oil-heated system by a licensed technician with basic plumbing

skills. The metals in the device do not leech into the fuel, and there is no fuel additive component. The Catalyst works on biofuel blends as well as pure petroleum products.

The UConn report describes the process. "The inside of a Fitch Fuel Catalyst consists of a patented mixture of metallic alloys that, when exposed to fuels, causes a temporary catalytic conversion that can last for several days, depending on a number of environmental variables," the report states.

"Specifically, the Fitch Fuel Catalyst can extract hydrogen atoms from different fuel components, thereby changing the composition of the fuel. Oxygen is present when the catalyst is exposed to the fuel and oxygenated compounds that can burn more efficiently are produced."

In addition to reducing consumption, the Catalyst also results in cleaner combustion with less residue inside the combustion chamber. "Verizon installed the Catalyst in 50 buildings in New York City, and they have not cleaned a boiler in four years," Wright said.

Underwriters Laboratory (UL) created a new category, Catalyst Reformer, to accommodate the Fitch Fuel Catalyst technology. All Fitch Fuel Catalyst heating units reflect the UL listing on the label and Wright states, "We are pleased to see our catalyst technology is now widely accepted in various different markets."

For more information, visit www.fitchfuelcatalyst.com or inquire at info@fitchfuelcatalyst.com. ☒



Advanced Power Systems International makes Fitch Fuel Catalysts for a variety of applications.