

A small company is part of the push to run cars on vegetable oil

Oil change

By Will Fifield

VEGETABLE OIL—the stuff in your kitchen cupboard—is not only great for frying tacos, it's a clean, readily available source of automotive fuel. Costco members Edward Beggs, of Salmon Arm, British Columbia, and Craig Reece, of Berkeley, California, say that it's the most environmentally friendly and economically viable alternative fuel available today.

Their Web-based company, Neoteric Fuels, which does business as PlantDrive (www.plantdrive.com), provides the expertise, products and professional mechanical assistance necessary to help individuals and companies modify their diesel-powered vehicles to run on vegetable oil. Beggs and Reece say that a growing number of motorists are buying diesel-powered cars and modifying them to run on vegetable oil because it addresses environmental, geopolitical and economic concerns.

A grassroots approach

Using vegetable oil as fuel is not a new idea. The first diesel engines, developed by Dr. Rudolph Diesel in Germany in the late 19th century, ran on vegetable oil. But the oil industry developed an inexpensive petroleum-based diesel fuel, which became the standard fuel for diesel engines.

Beggs, who founded PlantDrive in 1999, became interested in vegetable oil as an alternative fuel source as a university student studying environmental and sustainability issues. He says his education coupled with a background in soybean farming (a popular source of vegetable oil) near Detroit—aka “Motor City”—gave him an early interest in all the topics surrounding his business.

In 2003, Beggs offered to sell half-ownership of the business to Reece, who had converted his own car to run on vegetable oil in 2001. After modifying his car, Reece had been handling engine conversions for Bay Area motorists using PlantDrive products, and he jumped at the chance.

Now the pair hope that what has been a grassroots movement will expand. Each year, more motorists frustrated with wildly fluctuating gas prices find their way to PlantDrive's Web site.

“Vegetable oil is renewable and can be produced easily, locally, with minimal capital investment ...”

**—Craig Reece
Co-owner of PlantDrive**

Costco member Craig Reece helps people modify their diesel-powered cars to run on regular vegetable oil.

The nuts and bolts

Costco member Erik Elbek, of Santa Barbara, California, modified his diesel-powered Volkswagen Jetta in 2005 after reading a news story about oil companies posting record quarterly profits. “At the time diesel fuel was at \$3.50 per gallon. The largest container of soy oil at Costco, a 35.6-pound tub, was cheaper than buying diesel,” he says. “I was just tired of getting ripped off by the gasoline industry.”

Elbek learned the nuts and bolts about modifying his diesel engine to run on vegetable oil by studying information on PlantDrive's Web site. He says it cost about \$700 to \$800 in parts to modify his Jetta. Because he is mechanically inclined, he handled the modifications himself. Elbek and his wife were so pleased with their converted Jetta that they modified their Mercedes Benz turbo diesel about six months later.

Reece says that PlantDrive has helped car owners modify hundreds of diesel engines—and that these vegetable-oil-powered engines consistently deliver about the same economy and power as engines that use standard diesel fuel. However, he says, modified engines tend to last longer because oil is a better lubricant than traditional diesel fuel.

Like the Elbeks, many PlantDrive customers collect waste vegetable oil from restaurants for free. After they filter it, they can recycle this waste product as fuel in their modified cars.

“It takes about an hour every two weeks to



member profile

Name: Neoteric Biofuels (doing business as PlantDrive)

Owners: Edward Beggs and Craig Reece

Members at: Beggs: Kelowna, BC
Reece: Richmond, CA

Employees: Four

Products/services: Sells kits to convert diesel-powered cars and trucks to run on vegetable oil and offers support during the process of converting, or refers clients to mechanics who can perform the conversion.

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Edward Beggs: (250) 833-0275; fax 1-866-835-1031

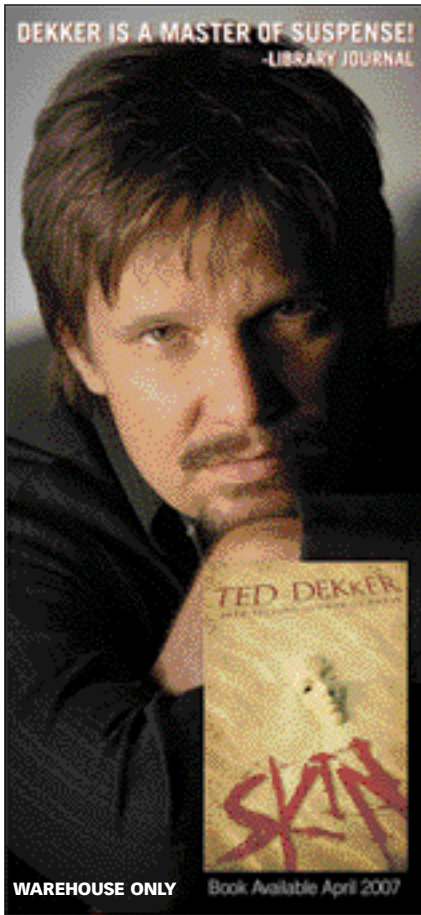
Craig Reece: (510) 841-3606; craigreece@plantdrive.com

Web site: www.plantdrive.com

Comments about Costco: “We often recommend Costco as a great place to buy new vegetable oil. I've filled up more than once at Costco, and the look on fellow Costco shoppers' faces as I fill up, once with a 1999 Mercedes E300, is priceless.”

—Craig Reece

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gather the used oil. Because I use the same restaurant connections each time, they always have it ready for me in containers," Elbek says. "They are very happy that I will take it from them, because otherwise they have to pay to get rid of it."

Recycling used vegetable oil requires a filtration system. Elbek's system consists of two large barrels, two pumps, a bag filtration system and a water-separating system. He says the cost to set up a good system runs somewhere between \$300 and \$500. Once the system is set up, he adds, the big cost is changing a \$10 filter every 100 gallons.

Modified diesel engines enable vehicles to run on vegetable oil but don't preclude using regular diesel fuel or biodiesel. So, if you go on long trips, you can bring vegetable oil with you, as Reece routinely does, or you can run your car on regular diesel or biodiesel.

Investing in the future

Earlier this year PlantDrive went to an Environmental Protection Agency (EPA)-

certified lab and tested the emissions of a 2002 Volkswagen Golf TDi that it modified to run on vegetable oil. The modified engine exceeded the requirements of the EPA emission standards. But that's not what excites Beggs and Reece most about the tests. They push vegetable oil as fuel because it doesn't contribute additional carbon dioxide into the environment, which they say causes global warming.

"When coupled with the efficiency of a diesel engine, vegetable oil as fuel represents one of the most affordable solutions to carbon dioxide emissions presently possible," Beggs says.

Reece says that this approach makes sense for many reasons. "If you agree that global warming is the greatest environmental threat facing the world, as we do, then it's important to recognize that we need to make changes," Reece says. "Vegetable oil is renewable and can be produced easily, locally, with minimal capital investment from a wide range of plants, and even from algae." ☐



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We went to the source, North America's leading battery manufacturer, a company that supplies batteries to many of the nation's largest retailers. Their automotive and marine batteries are built with patented Lifecycle™ technology to maximize life and performance.

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