

February 18, 2007

Biodiesel Fuel Raises Hopes of Greening Cars

By JULI S. CHARKES

Correction Appended

AS a cardiologist, Jonathan Sackner-Bernstein recognized the familiar signs: an excess of saturated fat had restricted flow and made movement impossible. But the patient in question was his Volkswagen Jetta, which he had filled the day before with biodiesel fuel consisting largely of rendered animal fat. Plummeting overnight temperatures had caused the fat to congeal, and the result was a clogged engine and a stalled car.

"Basically, it was filled with pockets of crud," Dr. Sackner-Bernstein, 46, said later from his home in Dobbs Ferry, N.Y.

With renewable fuels seen as a way to end the nation's dependence on foreign oil, more drivers are turning to biodiesel, a fuel made from the chemical reaction of mixing animal fat or vegetable oil — even recycled grease from French fries — with methanol and lye.

Emissions can be substantially lower than those from a petroleum-powered vehicle — up to 78 percent less carbon dioxide, according to a study by two federal agencies, the Departments of Energy and Agriculture. That may account for its growing popularity: 225 million gallons of biodiesel were produced in 2006, up from 75 million in 2005, according to the National Biodiesel Board. Enthusiasts were pleased when President Bush, in his State of the Union address last month, called for the expanded use of "clean diesel vehicles and biodiesel fuel."

But while the idea of speeding down the highway in a car fueled by recycled fat can seem like an easy answer to [global warming](#), the reality is far more sobering. Fatty deposits, legal restrictions and uneven supply are some of the roadblocks that early adapters have to navigate.

"This is not a panacea," said Jerry Robock, 56, of Community Biofuels in Yorktown Heights, N.Y., who lectures on biodiesel use in Westchester County.

"You're still burning hydrocarbons, you're still contributing to greenhouse gases, you're still putting stuff in the atmosphere," he said. "But it's at a much lower level."

All diesel-engine cars can run on biodiesel, but buying and registering a new passenger diesel car in New York is almost impossible because the state adheres to California emission standards, some of the strictest in the country.

The same emission standards take effect in [Connecticut](#) and [New Jersey](#) in 2009, making the buying process a little easier, for now. Several car manufacturers are also working on introducing cleaner diesel cars; Volkswagen AG and DaimlerChrysler AG recently unveiled plans for a line of diesel-powered vehicles that meet more stringent clean air standards and should be available by 2008.

But by far the biggest difficulty is obtaining the fuel. About 1,000 gas stations around the country offer a blend of biodiesel mixed with diesel, but there are places with no commercial pumps at all. The National Biodiesel Board lists a handful of suppliers in Connecticut and New York, including on Long Island, in Brooklyn and in Troy, north of Albany, but none in New Jersey or Westchester County.

"I have customers from Westchester coming here all the time," said Carl Vogel, 39, of Vogelbilt Corporation in West Babylon, on Long Island.

"They'll bring extra containers," he said, "Some bring 55-gallon drums with them and stock up on fuel every couple of weeks."

Mr. Vogel, a former organic farmer, sells the fuel to customers by appointment only, but business is thriving and he plans on expanding.

Mr. Vogel is not the only entrepreneur to recognize the growth potential in alternative fuel. Richard Reilly, 37, of Fairfield County, Conn., has been involved in several biodiesel businesses since first hearing about the fuel years ago while listening to an interview with the actress Daryl Hannah. His newest venture involves a biodiesel production plant in Cheshire, Conn., that will run on recyclable oil and that he predicts will produce three million gallons of biodiesel fuel a year.

"There's so much money rushing into this industry right now," Mr. Reilly said this month in a phone interview from San Antonio, where he was attending the National Biodiesel Conference. "But like any industry, there's going to be growing pains, and we need to make sure we're doing this the right way, by focusing on sustainability as well as safety."

Ms. Hannah, a longtime user and promoter of biodiesel, said by phone from the conference that interest in the fuel had never been higher. Four years ago, she said, the conference "was 400 farmers sitting in a hotel in Palm Springs, and now we're talking thousands of people and importations from all over the world, just to get a product out on the market."

But questions on cost and safety remain. Thanks to government subsidies, biodiesel costs about the same as regular gasoline and gets about the same mileage as regular diesel, depending on source ingredients. Dr. Sackner-Bernstein, however, said that like many consumers, he preferred using pure biodiesel, as opposed to a blend, so he pays more to have a company in New Hampshire deliver 100 percent biodiesel to his home. "On average, I pay about one extra dollar per gallon," he said.

For those who don't want to pay extra, there is another option: making the fuel. Mr. Robock oversees the Hudson Valley Biodiesel Co-op, a group of more than 20 enthusiasts who rely on used cooking oil from

the Culinary Institute of America in Hyde Park and [Vassar College](#) in Poughkeepsie to mix their own at their private plant.

But working with such flammable ingredients can be dangerous, even illegal. Dr. Sackner-Bernstein experimented with making his own biodiesel but was tempered by village codes that restrict the amount of methanol residents can store on their property. There are also strict federal standards on the use of homemade fuel. "Doing it yourself is a whole other can of worms and oftentimes not legal," said Jenna Higgins, a spokeswoman for the National Biodiesel Board.

But for those dedicated to the idea of going green, the costs and hassles are worth it. "I'm not sure there is a perfect solution, but biodiesel is the optimal choice among all others," Mr. Robock said.

Dr. Sackner-Bernstein recently bought aquarium heaters to warm the barrels of biodiesel in his driveway to prevent clogging.

"I've had the pain of breaking down once already," he said. "I don't want that happening again."

Despite the challenges, he still views biodiesel as the most viable way to end the country's dependence on foreign oil. "I feel that this is important enough that these roadblocks are not going to stop me," he said. "I want to make a statement, and if enough people make a statement, all of a sudden, there's impact."

Correction: February 25, 2007

An article last Sunday about biodiesel-driven cars referred incorrectly to the biodiesel blend sold at gas stations around the country. The biodiesel is mixed with diesel, not with gasoline.

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