



Out of the Frying Pan, Into the Fuel Tank

By Melanie Williams, Earthscope Reporter

(This article was published in the Marin Scope Community Newspaper of December 2-6, 2003)

Can recycled vegetable oil be the secret ingredient in the recipe for environmental sustainability? Biodiesel, derived from renewable sources such as soybean oil, is now available in Marin. The alternative fuel, described as "less toxic than table salt" and "as biodegradable as sugar" by the National Biodiesel Board, is the latest constituent in America's automotive kitchen. Do you want fries with that?

Most people prefer the innocuous smell of biodiesel, similar to a French fry aroma, to the toxic fumes of gasoline, and so does the environment. Biodiesel was approved and designated as a fuel by the Environmental Protection Agency, the Department of Energy, and the Department of Transportation. It is the only alternative fuel to pass the health effects testing required by the Clean Air Act, posing no known threat to human health. Biodiesel emits 75-90% fewer hydrocarbons and other cancer causing components than petroleum diesel. It is free of aromatics and sulfates (the prime element of acid rain).

A United States Department of Energy study showed a reduction of carbon dioxide emissions by 78.5% in biodiesel compared to ordinary diesel. Even in B20, a blend of 20% biodiesel and 80% petroleum, particulate matter release is reduced by 31%.

Because it is nontoxic, biodiesel is safer and easier to transport, use, and store. Any vehicle currently powered by diesel, even an SUV with a compression-ignition engine, can easily convert to biodiesel with little or no modifications to the engine. Biodiesel has no effect on the performance of an automobile and no more than a 3% effect on fuel efficiency (mpg).

Biodiesel's lack of petroleum is also advantageous. It makes the US less dependent on foreign countries for oil and so saves billions of dollars spent annually on oil security, transportation, and taxes.

Naft Gas, a local station in Fairfax, now serves B100 (pure biodiesel) at \$2.69 per gallon, a price that many citizens of Marin County are eager to pay.

Sam Ruark, Green Building Program Coordinator at the County of Marin Planning Office, fills his diesel-fueled car with biodiesel. He agrees that the rewards of the environmentally friendly car compensate for the price of gas. Although Ruark is in favor of the growing popularity of biodiesel, he knows that not everyone can rely on used vegetable oil from restaurants for fuel.

"We could not convert to a totally biodiesel society because we lack the acreage to grow the necessary amount of plants," he said. "Biodiesel is one tool that we can use along with solar power, alcohol and hydrogen fuels, natural gas, and different alternative fuel vehicles developing in the next decade."

Marin residents have discovered some of these alternative fuel vehicles.

The most popular current alternative vehicles in Marin are hybrid electric cars. Hybrids combine an electric motor with an internal combustion engine to create a substantial fuel efficiency. Lower fossil fuel consumption gives hybrids 33-50% less gas emission that contributes to global warming, according to the Office of Transportation Technologies.

Regenerative braking capability enables hybrids to stop and decelerate without using extra energy. The 3 models manufactured in the US are all available with automatic transmission. Hybrids are typically twice as fuel efficient as their equivalents in conventional cars. The Honda Insight averages up to 68 mpg, the Honda Civic Hybrid reaches 51 mpg, and the Toyota Prius goes up to 52 mpg. This fuel efficiency also reduces US dependency on foreign oil.

Betsy Rosenberg, host of the environmental radio program Ecotalk, co-founded a campaign of Mothers for Clean and Safe Vehicles called "Don't Be Fueled," striving to popularize hybrids via an online petition, letters, and consumer awareness.

They increased demand by "educating consumers that their car purchases could make a huge difference environmentally, health wise, and politically," said Rosenberg. "[We are] letting car companies know that if they make more family-friendly, fuel-efficient cars, we will buy them."

The buyers may be receiving a bargain. Though the current models typically cost about \$20,000, \$1,500 to \$4000 more than their conventional counterparts, their gasoline bill is cut in half. The increase in gas prices over the years will further accelerate the redemption of the cost of the car. In addition, there is currently a \$2,000 tax deduction for purchasing a hybrid. That alone could balance the extra money spent originally.

When searching for the best alternative vehicle, it can be taken in consideration that no automobile or fuel is a panacea for the world's environmental problems. They are simply ingredients in the formula for the antidote.

RESOURCES:

National Biodiesel Board: www.biodiesel.org

Hybrid Cars: www.hybridcars.com