by Sam Williams
Wednesday, December 14, 2005 12:00 AM -

If you're like most New York City homeowners, the recent combination of early winter snow and record high fuel prices already has you griping as you await the first monster Keyspan bill of the season.

If you're a researcher or entrepreneur specializing in environmentally-friendlier alternative fuels, on the other hand, it has been a time to celebrate.

"People are jazzed," says John Nettleton, and by people, he means people like his colleagues at the Cornell Cooperative Extension, a Cornell University research group. "They see it as a real opportunity."

Nettleton's group has two projects under way within the city involving "bio-fuel," specifically bio-diesel. Bio-diesel is a mixture of refined vegetable oil and ordinary petroleum diesel. By promoting the use of such fuels, environmentalists hope to reduce petroleum emissions while at the same time providing an additional market for local farmers and recyclers.

From Restaurants To Your Boiler

Earlier this year, Nettleton's group conducted a survey of New York restaurants and put the total amount of waste vegetable oil available to recyclers more than a million gallons in Brooklyn alone. (Almost 90 percent of that total is currently recycled, Nettleton says, but most of that recycled product goes toward the production of cosmetics, soaps and other organic derivatives.) Part of the beauty of bio-diesel is that the "bio" part can include a wide range of oils, everything from used sesame oil to animal fat and grease.

"There's a huge potential supply of restaurants and food service establishments in New York City, I think 26,000 restaurants by the last count," says James Quigley, director of the Center for Sustainable Energy at Bronx Community College.

Percentages vary, but the most common bio-diesel blend, 20 percent vegetable oil, 80 percent petroleum -- often referred to as B20 -- is already price-competitive when compared to regular diesel and gasoline. According to a U.S. Department of Energy report on alternative fuel prices, the average Sept. 2005 price of B20 was $2.91 compared to $2.81 for

ordinary diesel and $2.74 for regular gasoline.

The cost will become even more competitive because of a recent federal tax credit giving heating oil producers a dollar back for every gallon of virgin soybean oil they use to produce bio-diesel.

Not only is bio-diesel cleaner-burning than heating oil but it also delivers better efficiency, thus reducing stress on aging boilers. Add in the fact that a recent executive mandate from Governor George Pataki earmarks a five percent minimum of the state's fuel consumption portfolio for bio-diesel and you have all the requirements for a fast-growing marketplace.

A Growing Marketplace

How fast is the market growing for bio-diesel? Environmental Fuel Alternatives, a Brooklyn startup with production facilities In Newark, claims to have sold two million gallons of bio-diesel in less than two years' time.

"If I could get the production up and everything I wanted, it would be double," says Bob Lindenbaum, the company's chief operating officer.

Other heating fuel suppliers are following suit. Mark Schildwachter, an executive at the Bronx heating oil wholesaler Fred M. Schildwachter & Sons, Inc., says his company is currently in the process of switching over its equipment to accommodate B20. The company already offers bio-diesel to customers who wish to order it but expects to ramp up production to all its customer within the coming year.

James Quigley of the Center for Sustainable Energy personally drives a 20 year-old Volkswagen that can switch over to bio-diesel as a fuel source once the engine has been properly warmed up. Quigley permitted bio- diesel vehicles to be shown off alongside hybrid and fuel cell models in the Center's "Clean Car Fair" held on Earth Day earlier this year.

A Compromise Solution, Not A Perfect One

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As noted in many environmental journals, bio-diesel is, at heart, an imperfect energy solution. Even if you raise the blend ratio to 100 percent refined vegetable oil, you still face the continued problem of turning long-chain carbon molecules into airborne carbon gases such as carbon monoxide, a poison, and carbon dioxide, a heat- trapping chemical considered by many scientists to be a root cause of rising global temperatures.

According to a 1998 U.S. Department of Energy study, mixing vegetable oil with diesel reduces sulfur emissions but actually raises nitrogen oxide emissions, a key contributor to urban smog. Maybe that's why those looking to clean up local skies and reduce U.S. dependence on fossil fuel see bio-diesel and other carbon-based biofuels as the economic equivalent of methadone maintenance -- i.e. a compromise solution for a society too addicted to quit petroleum cold turkey.

"You could say bio-diesel is a transitional fuel like natural gas," says Quigley of the Center for Sustainable Energy. "It gives us a sustainable resource, and it allows us to put people to work in sustainable jobs while at the same time reducing the export of dollars in exchange for exhaustible fossil fuels that pollute our atmosphere and contribute to global warming."

Quigley's program owes its existence to a $2 million Department of Energy appropriation secured by local Congressman JosĂ© Serrano in 2003 to help combat historic air quality problems in the Bronx. As director of the program, Quigley would love to see a bigger local emphasis on technologies that get rid of the emissions issue altogether, technologies such as fuel cells, photovoltaic systems and wind turbines. As a realist, however, Quigley recognizes that bio-fuels are an important first step -- one that could, in time, tilt the free market to these other energy alternatives.

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