

*Success  
Stories*

The  
Sustainability  
of America's  
Future  
Through  
Biodiesel

*Success  
Stories*

*To commitment,  
change,*

## **T**he companies you see profiled here

are from diverse sectors of the petroleum market. You will find a truck stop, petroleum wholesalers, home heating fuel retailers and even a producer. As diverse as their businesses are, they all have one very important thing in common: they decided they could make a difference by embracing biodiesel. They made a difference within their companies—look at how Tragar, the Green Energy Company, reinvented themselves to become a leader in environmental responsibility on Long Island, NY—or made a difference within a community—look at how Metro went from being a diesel distributor to becoming a biodiesel producer, creating green collar jobs.

If there is a recurrent theme running throughout these stories, it is “being different.” Being different often takes courage or a leap-of-faith or whatever you want to call it. Each of these companies has made the strategic decision to differentiate themselves with, perhaps, the first really new product they have ever offered since the oilheat industry moved from coal!

It was not always easy; there have been supply issues, inconsistent government support, facilities upgrades, procedural updates, quality concerns, and the need to commit company resources to an emerging market. Certainly, customers were not lining up demanding biodiesel or Bioheat® and in some cases, were downright against it. Perseverance, vision and commitment were required. The companies whose stories are told here all had it—and still do.

The payoff has come in varying ways. Some of the companies quickly became market leaders; others needed to offer biodiesel and Bioheat® just to stay competitive. Some have customers who are willing to pay premium prices while others are receiving biodiesel blends and don’t even know it. In some cases, the payoff may still be on the horizon.

*'Quality standards and controls  
are at the highest level ever and  
continue to be the prime directive....'*

*Success*

# Success and being different...

However, the payoff for the nation as a whole is undisputed. Quickly integrating biodiesel into transportation and home heating is crucial not only to these industries' health, but to our country's well being. Reducing carbon emissions is not only the responsible thing to do, it is the law. Using less imported oil is not only the conscientious thing to do, it impacts national security. Relying upon renewable fuels is not only the environmental thing to do, it is an investment in our children's future and our country's long term success. Rarely do we have the chance to truly affect the future, but with biodiesel, we do.

There is more to the biodiesel story than you will read here. Research and development are ongoing. Quality standards and controls are at the highest level ever and continue to be the prime directive of industry associations such as the National Biodiesel Board ([www.biodiesel.org](http://www.biodiesel.org)), as reflected in its BQ-9000 quality accreditation programs ([www.bq-9000.org](http://www.bq-9000.org)). The heating fuels industry is working towards raising the blend levels acceptable in home heating oil. Brookhaven National Laboratory is researching and developing technologies in which Bioheat® provides greater warmth and more hot water while becoming one of the cleanest fuels available. Many regional and state agricultural boards are working to produce more biodiesel and expand distribution while fighting for more government support in the form of ongoing tax credits.

Commitment, change and being different is what are presented to you here. Some have embraced all three and as you read their stories, you will see they are absolutely sure they made the right choice.

*'Quickly integrating biodiesel into transportation and home heating is crucial not only to these industries' health, but to our country's well being.'*

**National Biodiesel Board,**  
P.O. Box 104898  
Jefferson City,  
MO 65110-4898  
PHONE: (573) 635-3893  
FAX: (573) 635-7913  
[www.biodiesel.org](http://www.biodiesel.org)  
[www.bioheatonline.com](http://www.bioheatonline.com)  
EMAIL: [info@biodiesel.org](mailto:info@biodiesel.org)

# In the Heart of the City

Founded in 1942 by Pauline Pullo, who recognized the growing commercialization of oilheat as a cleaner, more convenient alternative to coal, Metro has grown into one of the New York Metropolitan Areas largest family owned energy suppliers.

It is located on the Newtown Creek, in Greenpoint, Brooklyn, just across the street from a major clean water treatment plant for the city.

On the heating oil side, about 40% of Metro's customer base is residential, the balance is commercial. Metro

provides full service to its customers and handles just about any fuel except propane, which is restricted in New York City.

## Biodiesel

Right now, though, Metro has a MAJOR commitment to biodiesel. Although it has been a BQ-9000 certified marketer and blender of biodiesel for some time, it is currently in the process of building a 110 million gallon capacity biodiesel processing

facility on site. It will be producing B100 from a variety of local feedstocks.

How it got to that point, from being a supplier to a producer of biodiesel, seem a logical process to Gene Pullo, one of the company's owners: "It started out almost innocently." Sometime around 2004, they began to think about biodiesel. They had already toured a number of plants and talked to a number of people who were producing or supplying the emerging product.

"We were going to meet the [producers] because we wanted to sell



Tom Torre (left) and Gene Pullo



biodiesel and were looking for supply, so naturally we were looking for people to link up with. We wanted to continue to do what we were doing, running the bulk terminal, and market biodiesel. Then we realized we didn't like a lot of the things we saw."

Part of what bothered them was product quality and inconsistency. Product quality was the reason the biodiesel industry began to institute quality control measures, the most important of which was BQ-9000 certification. Based on the ISO 9000 concept, BQ-9000 assured the biodiesel was being produced to acceptable quality standards.

Another factor was the cost of transportation.

"The cost of transportation, when you're intermodal, of getting it here, became very expensive. We began to feel the plant really should be where the market is."

### Local feedstock

The first step was to get the necessary raw materials from sources close at hand. For Metro, the biodiesel processing facility ideally should be able to use anything for a feedstock, from waste grease to virgin vegetable oil, animal fats, etc.

To test this concept, the company ran, for part of 2008 and all of 2009, a pilot plant at Rutgers University where they tested all the potential feedstocks. And it worked. The next step: scale it up to production capacity.

Everybody was supporting the use of biodiesel—the federal government was giving blenders a \$1 a gallon tax credit, and the state was giving consumers tax credits for using biodiesel. Also on the positive side, ASTM had finally classified a B5/No. 2 fueloil blend as equivalent to No. 2 heating oil alone. "That was a big home run plus for us."

So Metro began its long term commitment to a 110 million gallon a

year biodiesel processing facility—a \$30 million venture.

Said Pullo, "The driver to build the [plant] here was because we didn't put our name, and reputation on the line if we couldn't guarantee quality."

What Metro delivers, aptly named Greenheat™, is a B20 blend.

Metro's residential customers must choose the greener fuel, which comes at a premium price—ten cents more a gallon, but with the state tax credit, they can save up to twenty cents per gallon, depending on the percentage of biodiesel, so it was a logical choice to go to B20.

### Tax credits: the downside

Which brings up the issue of the Federal blender's tax credit, which, until December 31, 2009, was \$1.00 per gallon. On that date, the tax credit expired. That's the downside, he said, because the loss of that credit could have been a major blow (it didn't hurt them this time since they prebought their biodiesel before the expiration date).



## Green jobs

"This is a 29,000 job industry—we alone will have 200 employees when the plant is built—with 60 of those positions being 'green jobs.'

"In any emerging industry, you either have to have government support or you have to have a mandate. It is either one or the other. You either need a national mandate, where they may say, 'we want a percentage of all fuels used, whether heating oil, gasoline, diesel—whatever—to have a renewable aspect.' Fine. That gives us a level playing field."

Already certified as a BQ-9000 marketer, he fully expects BQ-9000 certification as a producer when the plant has been producing for three months (a requirement) because three months before full production, "we will be implementing everything," including all the documentation and other procedures required for certification. "Our customers are big, and they are requiring BQ-9000."

Most plants, noted Pullo, are designed for virgin vegetable oil.

There, the free fatty acid content—which is usually considered a waste by-product—is low. A common by-product of the soybean process, for example, is glycerin. The amount is considered insignificant.

But Metro's feedstocks may have free fatty acid content around 20%. That's 20% that is essentially waste. This new plant is designed to be able to take the free fatty acids and turn them back into feedstock, giving an increased yield of 90% or more.

Most of the anticipated losses will be makeup water. The process also uses methanol (to remove the by-products) and it is mostly recovered and reused.

## Location, location

The upside of being located in the heart of the city is the ability to get product to your customers quickly.

In fact, said Pullo, rather than get a product that is shipped 700-800 miles, it is much better to have it processed locally and turned into a fuel. "By having a plant right here inside the City of New York...that reduces the carbon

footprint of the fuel because the feedstock doesn't have to be transported as far."

## The product

When the B100 is produced, said CFO Tom Torre, it will be stored in ten 20,000 gallon tanks that are located in a heated building. They were formerly used for kerosene.

"In general, we're very comfortable with B5 and B10 in NY right now, although [the city] is trying to clean up residual fuels, such as No. 6, so there may be a point where it may not be cost competitive, but we have found with a B5/No. 6 blend that we're getting spectacular results, with lower stack temperatures and improved efficiency, including burner efficiency increases of 15-20% with no real adjustments."

"We have seen great results, very satisfied customers. People feel good," added Pullo, "when they understand how easy it is to clean up the air."

Metro blends at the rack via computerized mixing and even fuels its own trucks with biodiesel. "Our entire fleet of 50 delivery vehicles runs on B20 up to November, and goes back to B20 in April. Their carbon reduction is tremendous: hundreds of thousands of pounds of carbon have been eliminated."

Pullo's enthusiasm for biodiesel is unequivocal: "People can have an opinion about biodiesel, one way or the other... We don't see any real negative things about it; the bottom line, it creates jobs, it takes our dependence away from foreign governments who don't like us, and it keeps the money in our economy, and that's a great thing."



## Ducking about town

Well, it floats like a duck, sort of swims like a duck, but it sure doesn't quack like a duck. And it's pretty big. This flock of ducks rolls on wheels, swims and is appearing in city after city around the country. They're amphibious land/water craft and they take tourists about town, driving through the city then effortlessly entering whatever waterway is available for a river tour as well. Originally war surplus, the demand is so great

they're now being manufactured in volume.

Smart operators will point out that they're green, despite the color they're painted. In Boston, these ducks indeed munch on greenery. Taylor Oil supplies the biodiesel, and, according to Taylor's Vice President of Operations, Mark O'Leary, it is a plus for both of his biggest customers, Massachusetts Institute of Technology and Duck Tours.

Getting into biodiesel for Taylor, said O'Leary, wasn't a difficult decision: "We have always known about biodiesel; the industry efforts have been out there. We just needed the niche market to get into, one we knew our customers would benefit from in numerous ways. The biggest advantage for them, of course, is the public perception of burning a cleaner fuel, but biodiesel also cleans the engine and reduces our dependence on foreign fuel and petroleum in general."

*Taylor Oil comes out to fill these popular amphibious tourist vehicles 'ducks' with B5 biodiesel every morning.*



Those industry efforts were the ongoing hard work by the National Biodiesel Board and Paul Nazzaro, the biodiesel industry's tireless advocate. "The message has always been present that we should be looking at this and staying aware."

Expecting interest from customers, the company made sure it had biodiesel available for when it was needed in a blend, but, said O'Leary, "the big obstacle has always been price. The tax credit has helped with that immensely, but with the increased cost of diesel fuel now, the higher price of biodiesel has been diluted; it's not so much of an increase, because the higher cost of diesel has cushioned the difference."

The company had purchased B100 in the past, but, he said, it was not always available. When they did, they would store B100 and blend as necessary, entitling them to take the federal blender tax credit. But it doesn't do so now because, said O'Leary, it's simply easier to obtain blended product from Global in Boston. "That made a huge difference for us; we can go to the rack and pick it up and not have to deal with blending at all."

The company began to sell biodiesel about 10 years ago, selling to a single government entity. "We would, from time to time, win government bids, but they were one and two at a time. We didn't have the steady customers we do now with MIT and the Boston Duck Tours. They take biodiesel daily for all the campus buses and tour buses."

As with others who have become biodiesel supporters, there were concerns at first. O'Leary said there were many different products that had to be considered, but gradually, they learned and began "to know what we needed to worry about." For example, they learned they could get biodiesel from various feedstocks, including tallow, soy or palm. "We tried to stick to soy, which we felt was superior."

One should still check any product

*'[My] customers are motivated by factors other than price, such as public perception....'*

*Left to right, National Biodiesel Board COO Donnell Rehagen, Paul Nazzaro, Advanced Fuel Solutions and Mark O'Leary*



that has been sourced, and they still do, but buying the blended product has taken away much of their initial concern. "We count on our supplier, Global, to deliver a good product, and they have." O'Leary doesn't think the transformation into a biodiesel marketer changed the way the company was run and the product

marketed, because he feels the company has always been a little bit different, more of a niche marketer in a secondary market. "You know the primary markets are full of a whole bunch of companies doing the same thing—and beating themselves up on price. Sometimes, you can succeed in the secondary market." In essence, he

said, biodiesel is a market differentiator for Taylor Oil. It raises the product, he said, above a commodity.

Taylor Oil's approach to product delivery is quite interesting as well. "Our two largest customers [MIT and Duck Tours] are wet hose or touch fuel customers," he said. "We go and actually fill their vehicles for them. We fill some tanks for them as well, but we offer the service of filling the individual vehicles on a daily basis. For MIT, it's the campus buses that operate throughout the city of Boston." Likewise, the Duck tour operators enter their vehicles each morning knowing the tanks are full and the ducks are ready to go.

Talk about having your ducks in a row!

In most companies, offering biodiesel has had a very positive effect on employees as well. In this case, said O'Leary, "...it just continues to stress that we are the company willing to do something different, to take the next step or do something extra for the customer. Not many companies actually fuel vehicles for their customers, and that is much of what we do." Being a biodiesel supplier reinforces that image.

Because of the nature of their

business, the company doesn't have, percentage wise, a large number of customers. In that regard, the percentage of customers using biodiesel is fairly low, "but the customers we do have are committed to it and the way we do it almost makes us an exclusive supplier."

And just what are they using? The MIT buses scoot about the city using a B20 blend, while the amphibious ducks float along the city's rivers with a B5 blend. O'Leary said the Ducks would go higher, but there are warranty issues and it is easier for now to go with B5. They can point to the fact that as far as service goes, they have not had any problems at all.

"I cannot recall a single problem with regards to product quality. We are cautious of what and how we blend, but there has never been a problem. We run biodiesel in our own vehicles as well."

He added that as far as operations go, there wasn't much change at the Taylor facility. Dealing with biodiesel is easy he says, "as long as you keep an eye on the temperature of the product. We have an indoor storage tank for B100." It does get a bit chilly in the winter in Boston.

Taylor hasn't had to deal with public

perceptions, which in any case are generally positive, because they deal mostly with commercial accounts. As far as the tax credit goes, when it was lost due to a lapse in the legislation reauthorizing it, it was missed when they actually did the blending. O'Leary says it made a big difference at the time—but now, their customers don't see it, nor do they care about it. Their vehicles use petroleum diesel, and that price is close enough to blended diesel to the point it becomes negligible. "So the price issue has gone away."

Sure, blended biodiesel is higher in price than ordinary diesel, but O'Leary says his customers are motivated by factors other than price, such as public perception: "They can be viewed as a green company, burning clean fuel. That has got to be the number one motivator."

He also sees this as a significant growth area for the company. With the bringing on of MIT, the company expects to do more business in the Cambridge (MA) area. What's more, the city of Boston has an initiative to have its public transportation "clean burning." So in regards to transit in the city, he sees additional market opportunities.



*Ducks are a common sight on Boston's streets and waterways.*

## A good cup of coffee, and a green refill, too

The weary trucker, after countless miles, downshifts and pulls off the road, welcomed by a familiar sign promising comfortable rest and hot coffee. It's hard to miss, for a Sapp Bros. Travel Centers' logo is a monumental coffee pot at the end of a

highway. It is also a good place to fill up, and it is very likely he'd be refueling with biodiesel.

It certainly would be the case if he stops at the Peru, Illinois Travel Center. That's where Sapp Bros., which runs a chain of 16 travel centers throughout the Midwest, installed its first biodiesel islands.

They were a bit reluctant at first to add biodiesel, mostly out of concern that their customers might not respond favorably to a new fuel, but embrace it they did, beginning with one location. Biodiesel's merits soon convinced them they had a good product, and eventually, Sapp Bros. began selling biodiesel at eleven of its travel centers.

Four Sapp brothers started the business in 1971 in Omaha at the junction of I-80 and Highway 50, and today the company has subsequently grown to 850 employees in eight states. The Travel Centers are strategically located on Interstate 80 running from Salt Lake City, Utah to Clearfield, Pennsylvania, and on I-70 in Kansas and Colorado and I-29 in Iowa.



Kevin Cassidy

They offer a variety of services for the weary traveler-hot food, truck washes, truck repairs, clean rooms and, of course, fuel.

Kevin Cassidy, Manager of the Peru, IL location, explained that in 2004, Sapp Bros. decided to get into the biodiesel business while taking advantage of an Illinois tax law that made biodiesel price competitive with the bordering states. The sales tax abatement on biodiesel blends of B11 or higher effectively matched Indiana's and Iowa's absence of a sales tax on fuel. After contacting several of their fleet customers, they were impressed with the favorable response from a good number of them. At that point, they decided to start selling the product at one of their travel centers, choosing the centrally located one in Peru.

"We put in two islands to see what kind of reception we would get," said Cassidy. "It took off kind of slow, but in time, we went from two to seven to nine and eventually to all 14 islands. That progression took about three years."

The company didn't make many modifications to the islands at first—mostly labeling. They simply blended the fuel as it came in. The company has blended as high as B20 on occasion.

But, explained Cassidy, that was not the case in some of the other locations. "People want to be green, but dollars are green, too," he added,



referring to some resistance to the added cost of the blend. "As long as we make it price competitive with regular No. 2 fuel, we're O.K."

Depending on the blend, the company was offering biodiesel 8, 10, even 12 cents lower than regular diesel.

"It got the interest of lots of people. It gave us something to market, no other truck stop was doing it, and we felt we could have a low cost product."

### Growth

Cassidy explained that the first step was having the trust of their customers. "That's why we started out small, and as biodiesel became more palatable, we grew." As always, new ideas have a difficult time in getting a toehold. Some customers wanted absolutely nothing to do with biodiesel, while others could see the benefits of lessening the country's dependency on foreign oil. They also wanted to show they could be green and burn less fuel.

It didn't hurt that they were located deep in the heart of some of the richest farm land in the country, which, it turned out, was a public relations bonus. A good deal of biodiesel is sourced from the soy farmers in the area.

"Here, we were helping the local economy, and people could see we were promoting that product."

And promote it they did. Working with the Illinois Soybean Association, "We did local radio, newspapers, farm news publications, that sort of thing." Word began to spread. Eventually, the holdouts, those who refused to touch biodiesel initially, began to come around. Cassidy said that after others blazed the trail, more and more people began to use it. "All the horror stories were proven to be just that—stories."

Were there problems? Mostly growing pains, the kinds of issues that, as an

industry matures, go by the wayside.

For example, as far as operations go, early on they had problems getting a consistent blend. Because they didn't store or handle the B100 themselves, they splash blended. A supplier "would deliver the B100 after which we blended in our fuel, with the thought that the turbulence would cause it to mix well." Splash blending is generally considered too imprecise for consistent operations. "We were getting pockets of high concentrations, so we felt we were not offering a good product."

The solution, and the recommended move, was to blend at the rack. They put in their own blending rack at the Peru, IL location and the problem was solved. "Now we can blend x amount of gallons in each compartment of fuel before we drop it, then it goes through a manifold and we get a consistently good blend."

To do this, they needed a steady source of B100. In Peru, they store the B100 underground in one of the No. 2 oil tanks and are currently looking into adding blending racks at their other locations.

In Illinois, if you buy diesel, it is pretty much assured you are buying biodiesel. And that, said Cassidy, is a good thing. "Everybody has to get on board to be competitive." And sure, there may be more competition, but that's offset because the product is now universally accepted.

### Supply

At the end of last year, and early this year, the federal biodiesel tax credit expired, and with that uncertainty, some producers "got out of the game," which in essence, tightened up supply. "But we are large enough players that we were able to maintain our operations without difficulty."

### Looking ahead

Cassidy thinks his company will continue to embrace biodiesel and hopes, as do other blenders, that the government will maintain a federal tax credit. That incentive assures the fuel is competitive, but he thinks the rule should be extended at least five more years instead of the uncertain state of affairs that exists now. Long range planning is very difficult without the assurance that the tax credit will be there for some years to come.

Has Sapp Bros. embraced biodiesel? Absolutely. Should other truck stops offer it? "There are people out there who want to be green and may be willing to pay a little more for it." Would he change anything?

"More education, especially for the maintenance people and technicians in the industry. There are still some who are afraid of touching biodiesel. But that is an educational effort that is best left to the National Biodiesel Board and the soybean growers associations. They have the right resources to get everybody on board."

Bottom line, said Cassidy: "There is absolutely no reason not to get into biodiesel."

### TRAVEL CENTER LOCATIONS

*Salt Lake City, UT*  
*Denver, CO*  
*Cheyenne, WY*  
*Sidney, NE*  
*Ogalalla, NE*  
*Odessa, NE*  
*York, NE*  
*Columbus, NE*  
*Lincoln, NE*  
*Fremont, NE*  
*Omaha, NE*  
*Junction City, KS*  
*Council Bluffs, IA*  
*Percival, IA/Neb. City*  
*Peru, IL*  
*Clearfield, PA*

# A marketing idea made in Heaven

The message was on the doorhangers, and they announced something new and exciting for Bantam Fuel's customers: "Congratulations, you have just received your first delivery of Bantam Bioheat®, the cleaner and greener fuel."

Peter Aziz, President of the Bantam, CT fueloil company, said the community loved it. "The letters poured in, saying 'Congratulations, you are doing the right thing. We appreciate your leadership.' It was an unbelievable outpouring of compliments."

Until that reaction began to sink in, though, he wasn't sure if his customers would be happy or irate, or that they would even embrace this new product.

After all, Bantam was an oil company. But this was a big, bold step. And it proved to be the right one, by a long shot. Today, he is very glad he made it.

## **Inertia**

Sure, there had been some early chatter about renewable fuel for home heating, but, said Aziz, was that to be taken seriously? He didn't think so. That's why, in the summer of 2006, when one of his suppliers broached the subject of Bioheat®, his reply was a firm, "No, don't be ridiculous!" Months later, he says, "I was buying tons of it."

He began to change his mind when, while attending the annual meeting of

the Independent Connecticut Petroleum Association (ICPA), he wandered into a seminar presented by an expert on biodiesel from Sprague, a large East Coast wholesaler and distributor. Other suppliers and dealers shared their stories as well—companies like Dennis K. Burke, which had success in the Boston area.

"I later discovered that what they said was true: 'Your customers and the public love it when you make a change.' It's as if you are elevated to stardom overnight. It is hard to imagine the magnitude of such a response in your own back yard."

Aziz also began to notice the frequent mention of Bioheat® around the industry, such as the articles by Paul Nazzaro, who, working with the National Biodiesel Board, put forth the case for Bioheat® and biodiesel in the trade press. There were also frequent meetings covering the subject around the area.

The turning point, he said, was when the ASTM finally agreed that a blend of B5 with No. 2 heating oil meets the ASTM D396 standard; in other words, it



*Peter Aziz and one of Bantam's trucks. Note the 'green' logo.*

was the equivalent of heating oil alone. "That was a monumental help," he said.

"I was always afraid people would say that if we were to blend biodiesel with heating oil, it was not oil, that we were selling them something else—worse, something they didn't need or want. But because of the ASTM approval, we are able to say 'It's oil, it meets the definition of oil—it just happens to come from a different source.' I think those industry efforts were hugely helpful."

### Making the jump

He decided to "make the jump" right after that ICPA annual meeting in 2006. He was pretty much convinced that consumers had become increasingly "green aware" but as their sensitivity to

value-added product for a decent markup that includes providing outstanding customer service. That's the way to win the hearts and minds of the customer. All that, he felt, was being undermined by a pervasive anti-oil mood, exacerbated by the events of the time.

"If that wasn't bad enough, the public outcry against the war in Iraq was often expressed as an unwillingness to go to war for oil. So I felt I was fighting an uphill battle."

It was also evident customers in other markets were willing to change companies if they believed that doing so might make a difference to the environment or would reduce the nation's dependence on foreign oil.

Certainly the "green" mentality was taking hold, and in a big way. "Stroll



environmental issues rose, he became concerned their faith in traditional heating oil was falling.

Popular culture and the media never seemed to tire of bashing oil, tagging it as the resident evil in our society. He was convinced that the public was essentially brainwashed into resenting oil, maybe even resenting the fact that they have to heat their homes with it.

Obviously, "The resentment and underlying bitterness was antithetical to the business plan of a full service oil company." From his point of view, a full service oil company wants to sell a

down the aisles of your local grocery store," he explained. "Look at all the green containers with green ink on everything. There's nothing without green ink on it. You can hardly find a product that is not environmentally friendly—or doesn't claim to be."

### Eureka

Eventually, all of these issues coalesced into a realization that Bioheat® was the way to go. Aziz's eureka moment came suddenly. "As I thought about these issues, and



*A Bantam door hanger reading, "Congratulations, you have just received a delivery of Bantam BioHeat, the cleanest, most efficient heating oil available. We are pleased to provide this new, environmentally friendly heating fuel to you at no additional cost."*

considered the infrastructure already existing for us to pick up Bioheat® and truck it to our plant, I realized that this is a marketing idea made in heaven! This was the perfect vehicle in overcoming the public's reluctance associated with oil."

So he knew he would become a supplier of Bioheat®. That was a given. Still, he had some concerns. This product was somewhat of an unknown. How would it perform, for example, in those frigid New England winters?

"We get down to -5° and -10° on the coldest days. Oil has to stand up to that and perform, but we didn't know if biodiesel would. I understood that the pour point and cloud point were fairly high, and we had no idea how it would perform in mixture. We certainly wanted to be sure we didn't have any customers without heat. That was a primary concern for us."

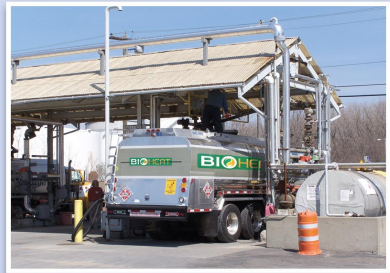
So he stepped back a bit. He decided he'd only sell it to customers who requested it.

"It would be available, and if they were interested, we would deliver it." To make it easier, there was no upcharge; the price would be the same as ordinary fueloil.

That idea was rejected quickly, after his dispatcher pointed out they would be sending two trucks to the same street, meeting various customers' demands.

"Then I thought, 'Why not just do everybody?' Be a leader and say we

# Maintaining Biodiesel Throughout the Process



## 1 Before Receiving Product

- ▶ Specify the respective ASTM certification
- ▶ Consider purchasing from a BQ-9000 certified supplier
- ▶ Use of a fuel stabilizer is recommended for long-term storage
- ▶ Discuss your fuel's application and cold-weather requirements
- ▶ Ensure storage tanks are clean and dry

## 2 Upon Receipt of Product

- ▶ Request a Bill of Lading or Certificate of Analysis
- ▶ Stick storage tanks with pasteurization tape
- ▶ Perform ASTM haze rating evaluation
- ▶ Retain two quart samples of product

## 3 Blending & Testing

- ▶ Be sure D975 diesel, D396 kerosene, and other components meet independent specifications prior to blending
- ▶ Blends must be clear in appearance
- ▶ B100 should be stored and handled separately
- ▶ Adhere to BQ-9000 quality requirements

## 4 Storage & Dispensing

- ▶ Fuel tanks should be kept as full as possible
- ▶ Monitor hoses, fills, vents and gauges
- ▶ Check tanks monthly for water and sludge
- ▶ Drain water when required to prevent microbial growth
- ▶ Handle all blends of biodiesel as flammable

## 5 If Problems Occur...

- ▶ Contact your supplier, report your problem
- ▶ Share your retained samples with your supplier
- ▶ If an acceptable resolution is not reached, contact the National Biodiesel Troubleshooting Hotline

National Biodiesel  
Troubleshooting Hotline  
**800-929-3437**



[www.bq-9000.org](http://www.bq-9000.org)



[www.biodiesel.org](http://www.biodiesel.org)

# Biodiesel Quality The Supply Chain

## Product

Information for the fuel being purchased  
 Certified marketer<sup>1</sup>  
 For storing fuel beyond six months  
 Flow expectations with your supplier



## the Product

Certificate of Analysis on fuel delivery  
 before, and after delivery, for water  
 evaluation to identify water and sediment  
 Your delivery for analysis should problems arise



## Blending Strategies

Heating oil and D6751 biodiesel meet their  
 requirements prior to blending  
 Appearance and free of water and sediment  
 Blended at 15°F above cloud point<sup>2</sup>  
 Protocols—for more details, [www.bq-9000.org](http://www.bq-9000.org)



## Storage Strategies

Efforts to minimize water contamination  
 Check gaskets for leaks  
 By obtaining a tank bottom sample, remove  
 microbial contamination  
 As you would any diesel or heating oil<sup>2</sup>



Contact them and ask for their assistance  
 Contact your supplier for analysis  
 If needed, contact the  
 National Biodiesel Board (800-929-3437)



## ASTM Specs

B100 (Neat biodiesel)  
 ▶ ASTM D6751

Diesel Fuel  
 ▶ ASTM D975

Heating Oil  
 ▶ ASTM D396

Biodiesel Blends  
 6-20%  
 ▶ ASTM D7467

Blends 5% or under  
 ▶ D396 & D975

## Footnotes

<sup>1</sup> If purchasing B100, consider a BQ-9000 Producer

<sup>2</sup> B100 "Neat", biodiesel handling requires knowledge of cloud point

made the change and we are now delivering Bioheat®." He did just that, delivering a blend of 2% Bioheat®. The initial blend was accomplished by "bringing in the right ratio of trailers and splash blending."

Even though the marketing people loved the idea, Aziz wasn't so sure about his customers. So he sent his drivers out with those informative door hangers; customers would read them and learn about this great new product. He crossed his fingers.

One worry was that it wouldn't work in large numbers of tanks, another that people would cancel, saying "I never

bargained for this. I want my money back."

So, he says, he had a few sleepless nights; maybe more than

a few. But he prepared. He was ready for the onslaught of protests. "We had our answers ready in advance. We had a Q&A typed out for our sales and customer service people who man the phones." In the end, though, they almost never had to use their prepared response.

Did they lose any customers over this? Sure. One out of 3,000.

"I'm sure he was looking for a reason to leave anyway, so on paper, there was one—one out of 3,000." In truth, there was no customer resistance at all. And the positive response was significant.

On the technical side, he had some worries too. He was concerned about the effects of the product on copper and bronze fuel line piping and on heating appliances and filters, or that it would "do funny things to pumps," but there really were no service issues.

### More bio

As they became more confident, they moved up to a 5% blend, to B5. That, he said, is much easier to deal with because there is no blending to worry about. "We can buy it as B5. I don't need to do anything to my bulk plant. The customer doesn't have to change their equipment at home and I don't have to change anything here either."

This seamless transition is a key reason, he said, for other companies to make the switch. "One of the strongest reasons for the industry to embrace Bioheat® as the heating oil of the future is because the infrastructure is already in place for this. We are not talking about building windmills, or installing solar panels, or building pipelines. You don't have to do anything because the infrastructure is already there. All you have to do is make a decision."

### Supply

Greater demand also means a careful watch on supply. While there were a few periods in the past couple of winters where B5 was more difficult to find, those events are becoming increasingly infrequent, he said. "I think this winter there has been an almost perfect stream of B5 supply. We get it from Sprague and Global in New Haven."

"One of the great things about going bio for me is the fact that I don't have to change my business plan. I continue to be an oil company. I order the oil and they deliver it in my tank, my trucks fill up and they make deliveries. I don't have to change anything I do." For Aziz, that's worth more than the credit.

### Marketing Bioheat®

Aziz has found that the dynamic, forward thinking image his company gained by boldly switching everyone to Bioheat® has now become inseparable from the company's identity. "We are still an oil company focusing on full service, and that will never be less important, but [it is now readily apparent to customers that] Bantam fuel is willing to embrace new ideas, new technologies and new systems."

He says his customers now feel they can rely on him to supply the technological solution. "They no longer assume that if they want a new high



Connecticut's Senator Joe Lieberman (2nd from right) was on hand with local officials as Bantam President Peter Aziz (podium) announced the new fuel. That's ICPA president Gene Guilford at far left.



tech German boiler, they can't go to their local oil company because they wouldn't know anything about that. Now, when they think about us, they think, 'those guys probably do know. They are cutting edge.' Bioheat® will do that to you."

Making the jump to bio has also invigorated everyone within the company. The new attitude toward the company has, he said, spilled over nicely in everything they do. Yes, there was some resistance, at first anyway. The technicians were the hardest to win over because they were inclined to blame problems on the bio.

"It took a lot of work to suspend their disbelief and to be scientific about what they were seeing. We jumped aggressively on every problem. Every time a tech said, 'I think you have a bio problem' with the tank or with the filter, we would study and study and send tests to a lab. In the end, we were never able to pin any problem on bio. Furthermore, we were able to show there were no increased problems.

"That was heartening, because the techs have the customers' interests at heart. They view themselves as the customers' advocate. These are the people that go into the basement and make the system well. They don't want to be selling the customer something that is bad for them. I think their skepticism was a healthy skepticism."

And yes, the company is now using more green ink. Bantam developed a new logo, with a leaf on it. In fact, the logo was so new that during a small press conference announcing the first delivery of Bioheat®, only one side of their truck was emblazoned with the new graphics. Every local politician and even the state's senators were invited. To their delight, Senator Joe Lieberman showed up, followed by the press. To get around the fact that they only had one logo on the truck at the time, it was parked



*This mailer gives a prospective customer 10 good reasons to switch to Bantam BioHeat.*

strategically in a way that no one could see the other side.

In his area, Bantam is the only one doing bio, so he feels his customers actually give the company more leeway. While he doesn't think going bio has been a source of great gain in new customers, when that rare mistake is made, his current customers are less likely to become angry and enraged "...because they have genuine, warm fuzzy thoughts about us."

**B20 is next**

Aziz is convinced going bio has been a great weapon in the battle against

going to B20, "If we can get there or even show that we are on our way there, it will be a huge step in shutting down the skeptics and shutting down the paid lobbyists whose job it is to make oil look bad."

He feels a mandate that heating oil have a bio component, and a planned schedule to get the industry to B20 or above, will enable "...us to say to our customers, 'We are not just green... we are demonstrably, measurably green. What's more, we are not importing fuel from abroad to do it; we are not fueling foreign wars. What we are doing is engendering an American industry here at home.' "

That, he says, is a hugely powerful

*'As I thought about these issues, and considered the infrastructure already existing for us to pick up Bioheat® and truck it to our plant, I realized that this is a marketing idea made in heaven!'*

negative opinion. For the future, he would like to see an increased use of biodiesel, say up to the B20 level because studies have shown B20 has a lower carbon footprint than natural gas. "That is the most powerful fact available to our industry."

While he does not suggest everyone

promise, one so important the industry would be foolish not to embrace. "If we do that, we really shut down the negative rap that we have been given." To Peter Aziz, selling a clean, green, renewable fuel and trouncing natural gas is assuredly a marketing idea made in Heaven.



# Tragar... A Green Energy Company

Call it evolution. Tragar Oil, in Long Island, NY, got its major start supplying oilheat to postwar Levittown, which was built to provide affordable housing for returning WWII veterans. Today, Tragar, a father and son company, has evolved into something very green.

When Dennis Traina's father began to step back a bit and allow him to take on more of what he calls the personality of the company, Dennis began to bring some of his own beliefs in as well. A proponent of living organically in what he eats and tries to purchase, and as he put it, "Most of my habits," he was particularly responsive to his sister's suggestion he look into biodiesel.

"My sister lives in California, and the green movement started out there.

When she sent me a link to biodiesel—at the time it was all biodiesel—I took an interest." Dennis began to research the product and discovered that biodiesel was available for the heating industry, but only on a general basis. "It wasn't available to me at the time. Sprague and the other major wholesalers didn't have the infrastructure yet—but I knew it was coming. Even before it got here, I began to plan for its arrival."

Since he essentially had carte blanche to restructure the company, he made some changes and "being a green energy company is what evolved." This evolution took place around 2005. The changes fit Traina's

philosophy of life, and when someone is enthusiastic about something, they want to share. Traina says he wanted to extend this "cultural thing" to his customers, to everyone's benefit.

He says a number of industry efforts were a great help in raising his interests and in steering him as he moved forward on this green path. For example, he heard Paul Nazzaro, who represented the National Biodiesel Board, speaking at several industry gatherings. There he heard the language of biodiesel.

"What was significant to me in supporting biodiesel was my participation in the National Oilheat Research Alliance's Redefining Oilheat Conference that was held in Washington, where the future of liquid fuels was discussed. At that time, I realized that liquid fuels were going to be part of the oilheat platform in the future, and I knew I was investing my time and energy in the right direction."

Another helpful resource was already in place. Traina found the National Biodiesel Board's website to be particularly useful, especially their literature, marketing templates and phone support. "It all gave me something I could rely upon."

Still, one doesn't just become a Bioheat® marketer. You have to have something to sell on a regular basis. "I needed to know that biodiesel was going to be available in the Long Island market. At that time, I reached out to the wholesalers in the area and





*Dennis Traina: "I knew I was investing my time and energy in the right direction."*

discovered that one of the major wholesalers, Sprague, had already committed to a timetable of when B5 was going to be available at their Oceanside Terminal."

That was the turning point. Traina felt he could make a commitment to begin a market introduction of biodiesel to his customer base. In 2006, he began to plan the marketing changes, eventually changing the logo, company colors, coming up with newly branded marketing efforts, painted trucks and vans. The big launch was in 2007.

At the time, he was concerned about the product; after all, he had made a major commitment, and there was some talk about stability issues with biodiesel. "At the time, it wasn't ASTM spec'd, nor was it UL listed or approved for use in heating appliances. Being a member of the Oilheat Manufacturers Association, I got to hear firsthand how the manufacturers were still relatively in the dark as to the long term effects of biodiesel. And there was the cost issue. What was I getting myself into?"

When he first began to look into it, he found he couldn't find anyone who could even tell him what was the real cost per gallon. "Then there was how was it going to affect my heating oil customers? Was it going to stir up or react differently with the oil already in their tanks? Was it going to cause a service nightmare? So it was really a leap of faith—and fortunately, biodiesel and Bioheat® has not disappointed me."

That green mindset played well in his marketing efforts. "I got made fun of for using the term 'carbon footprint.'" Traina said he was told that none of his customers would ever understand what that means. But he was steadfast: "I said it was only a matter of time." History proved him to be quite perceptive.

Still, evolutionary changes begin slowly. "I had to start literally in my own back yard. I had to start in my own office, and I had to get my employees on board—most importantly, my father! As much as they all believed in

the 'good feeling' of the concept, it was a radical change at that time.

"My father asked me, 'How many new customers are we going to get out of a new brand as a green energy company?' I had to prove that there were customers who would buy from a 'green energy company' before they would buy from a non-'green energy company.' And I had to prove that to both my employees and my father...and even a little to myself."

He started with the employees. They saw the new trucks and the new logo and they began to like the new and clean image, and they were particularly pleased with the reaction from the customer base. The customers would talk to them about the change they saw and how much they liked it. "They didn't know whether this oil was going to be good for them or not, and they didn't know what it was going to cost them, but they thought we were doing something that made sense."

He also found that the more the customers talked with his technicians,

the more the technicians got on board with what they were doing. "And the more my employees talked it up on the phone, the easier it got for them." More evolution.

Still, it took nearly two years for the employees to really appreciate and sincerely care about what they were offering. "I think at first it was more of a chance. They had new routing on the phone, they had new terms to learn, had to answer questions they were not comfortable answering. I think it was even natural, at first, to resist the owner's son coming in and changing everything." But they are on board now, he adds, in a very positive way.

Being in New York didn't hurt either.

*'Right now, we need bio liquid fuels to really compete in the marketplace.'*

The NY state tax credit allowed him to give something back to the customers. "It was five cents per bioheat gallon, so we were going B5 for the whole customer base."

While some companies were initially reluctant to inform their customers they were getting an improved product, Traina sent out newsletters, stuffers and statements telling customers they were going to get a new biodiesel blend. And the logo change had an effect there as well.

There were also no service issues related to biodiesel, so that concern was assuaged.

One thing Traina has done, and continues to do, is maintain a presence in the community. One of the more significant incentives to become a green energy company was the attention the company received from the community. "We were fortunate that our community, Levittown, New York, was being sponsored by our county (Nassau) to be the first 'Green Community,' and it turned out to be a major marketing campaign, getting all the local businesses involved in

reducing the carbon footprint of Levittown. That happened right after I finished branding the company, so it gave us a good push."

Immediate reaction came from environmental groups, non-profit groups, buying groups and organizations where there was a conscious decision in choosing a choice of fuel. "What surprised me was the fact that we did not get as strong a reaction from the customer base as I thought we would. With the initial change, people said, 'Wow, a greener fuel,' and we got their attention. I will say that as the word 'green' got more popular, the buzz wore off so it was not as easy to make an impact. There is something to be said of being the first...and we were and it worked."

Tragar not only got attention from the environmental and nonprofit organizations, it also pursued them actively, increasing its circle of customers. The company would approach municipalities, in particular, county organizations, as well as churches and educational facilities. The target: places with flexibility in buying their fuel. Eventually, they started to get random calls from such entities because Tragar was a supplier of B5. With fueloil alone, said Traina, "These customers had historically been out of our reach. It opened up a lot of new doors to big gallonage customers." And that has translated into sustained growth.

Tragar wraps bioheat up with other environmental initiatives. For example, the company donates trees with every new customer. It publicizes how much it recycles. It collects batteries. "We attempt, wholeheartedly, to be as green as possible in everything we do as we do with our fuel, and to stay on our mission."

They are staying true to form. They've planted a small forest of trees—at least 15,000 of them. And has being the "green guy" set them apart from the competition? Long

Island is one of the largest concentrations of oilheat customers in the U.S. Traina says anything he can do to separate himself makes a difference. Since there is a sector of the population who consider themselves environmentally conscious, they are more available to him now.

For their efforts, the company was recently nominated as one of Long Island's best green businesses, and that was entirely unsolicited. Through public vote, sponsored by The Long Island Press, the company was voted one of the top three "Best Green Businesses" on Long Island. "This is five years later, and we are



still noticed for being green."

Tax credits help significantly. The differential between biodiesel blended and non-biodiesel blended fuel has increased. The federal tax credit applies to blenders, and it has expired. That has a significant impact on the cost of the blended fuel and while the New York State tax credit is, said Traina, "...a considerable and generous effort, it is not enough to make a dent in the consumer pocket. After the first year, homeowners who were excited about being rewarded for making the right decision in using a renewable fuel were disappointed [as a result of] the tax credit."

Like many biodiesel marketers, he

is convinced the federal tax credit is essential to maintain the infrastructure necessary to make biodiesel truly successful. "The wholesalers need to make an investment when the demand is low. They need the financial incentive, and without that incentive, some of the momentum has slipped away." Put another way, biodiesel require an investment in both time and money to create the infrastructure necessary to store, blend and refine the products, and as long as the federal government is vacillating with its on again, off again blender tax credits, many are reluctant to commit to long term projects.

Traina maintains an extremely positive

attitude toward biodiesel, which he sees in the future of the company for the long term. "I don't see any reason why, in the next few years, we won't be at B20. Of course price is a factor, and the oilheat homeowner has been through a roller coaster of prices. Right now, we need bio liquid fuels to really compete in the marketplace.

"My customers seem to care more for a fuel that is made from a plant rather than an animal." In other words, sustainability, something only biodiesel can offer, which is why Traina is very comfortable with the 'green' company that has evolved in a few short years. "I am steadfast and fully committed to Bioheat®."





# A major commitment to infrastructure

It started with a simple request. A little more than eight years ago, Brian Gerhart was working for a retail marketer and approached his supplier, Petroleum Products Corporation (PPC) with an idea to purchasing biodiesel. His company had looked at the market and where they thought it was going, so they asked PPC if they would provide biodiesel.

PPC had no objection, said Gerhart, who is now PPC's Renewable Fuels Manager. For a company of their size (twelve terminals in PA, MD, VA, WV, OH, NY and DE), biodiesel was simply another additive. Gerhart says the thought process at PPC was to take the path of least resistance regarding whatever product a customer needs, so since it was a customer that brought it to their attention, they complied with the request. At the time, he says, there really wasn't a big market for biodiesel.

So the company started with one or two terminals. That was about eight years ago, and PPC has been selling biodiesel ever since. About a year and a half ago, it started rolling out biodiesel at all of its terminals.

As mentioned, initially there was little or no market demand. From PPC's perspective, it was just one customer who thought there could be a market out there if marketed properly. That customer was trying to splash blend the biodiesel with heating oil from a tank off to the side.

"The more PPC engineers looked at the arrangement, the more they thought it would cause problems," says Gerhart, "so they went and designed the injection blending that we use today. That first customer was a heating oil retailer."

PPC installed the biodiesel at two locations with all touch screen loading, so at the push of a button, the customer could load B2, B3, B5, B10 or B20 by compartment per truck. In fact, with the push of a button, the customer could load biodiesel, heating oil, kerosene, diesel, winter additives, anything they needed. The system, he says, was designed by PPC and is proprietary.

# Petroleum Products Corporation, Harrisburg, PA

Since they had the product, and could blend it at will, PPC decided to market it to its other customers, and to educate them on what the fuel was and what it could do. At that time, biodiesel was starting to catch on in Pennsylvania, but, explains Gerhart, there was more disinformation out there than fact floating around.

"So we had to do Biodiesel 101. We had to educate our customers about what the product really was, and more importantly, what it was not. We showed them how to factor it in, and to blend. We started the process, and other customers began to pick up the product." And those customers varied: some were municipalities, others were

offering Bioheat®, or biodiesel off-road, or red dyed for school districts.

About three years ago, Pennsylvania's Governor Edward Rendell began talking about a biofuels mandate. That put the product on the fast track. "We had something like 200-odd arms that needed biodiesel injection; it took us a good bit of time and money to get up to speed." But get up to speed they did. Biodiesel, says Gerhart, is here and is going to be more prevalent as time goes on, so whether there is a state or federal mandate, he adds, "We want to be sure our customers have what they need."

PPC is not necessarily interested, he says, "...in wanting to rule the world of



biodiesel. We wanted to make sure that we could supply that 2% or 5% so we could continue to be the through-putters for the other 90-plus percent. So we really started pushing it up.

"Yes, there was some customer demand, but with the uncertainty of the [federal] tax credit, we actually started to see some of our 'die hard' customers backing down on their percentages as the biodiesel prices began to rise and heating oil prices were dropping. But biodiesel is not going to go away. Renewable fuels are here to stay, and that is why we went ahead with the investment."

One of the concerns about biodiesel is the distribution network. Heating oil is either barged or brought in via pipeline (for the most part), while biodiesel comes in by rail and truck. Fortunately for PPC, the company was doing a full expansion for ethanol, "...and the system we used for ethanol

is piggybacked on the biodiesel system; our engineers cut their teeth on biodiesel.

"As far as the logistics go, we looked at the ethanol and biodiesel and realized to handle the amount we would need if the state rolled out a B2 and E10 mandate across the state would require something like 1,500 trucks on a daily basis, loading, unloading or in transit. So we went out and purchased land and built rail facilities across the state that have direct access to our pipeline terminal." All of PPC's terminals are connected by pipeline; there is also some barge traffic in Pittsburgh.

For PPC, that was an extremely expensive commitment. But from their point of view, they are primarily a terminal company: "Logistics are what we live and die by. So we saw a gaping hole in our supply side. We found property close to our terminals or, in some cases, we already had the space. In one instance, we had to purchase property about two miles away, so we ran a pipeline through the rights of way."

That investment, incidentally, resulted in high speed off-loading by rail at some of the terminals across the state, with the larger ones able to accommodate 18 to 36 rail cars. They unload directly out of the cars—there is no transloading—right into storage. The biodiesel hub in Mechanicsburg, PA, has 18 car slots for biodiesel and can off-load 18 cars in about 6 hours, simultaneously. They also have a million gallons of heated storage and are able to load B100 back out of that terminal and take it to their other terminals.

Mechanicsburg, says Gerhart, is unique because the company brings all of its biodiesel there. They quality check every rail car and truck that comes in, the product goes into storage, and is then trucked out to other terminals. In that way, they have a complete control system for quality and, he adds, "We are then able to guarantee our quality out to our through putters. We actually set our own specs for the product." He says those parameters are actually above the ASTM or BQ-9000 specs for potential suppliers who want to provide





product to PPC. And they do spec soy as their key feed stock. "Above that, we have our set of specifications for biodiesel."

They spec soy because it has properties that fit in well with their operations including winter operability. "Our average terminal has 12-15 through putters. We handle every major oil company and every major jobber that operates on the East coast right now, and they all have their own specs for biodiesel. It is easiest for us to simplify and meet the specs if we use soy. Also, we really needed a good comfort level for the first year of the mandate so it did not go away."

Has being a biodiesel supplier changed PPC's outlook? "PPC has always been, what I like to call, a progressive conservative company." What he meant was that they do not tend to take risks, per se: "You could say," he observes, "that \$100,000,000



or more spent on biodiesel in the hope that it will take off is a risk, but from a conservative standpoint, we looked at it as we need to have whatever is coming down the pike so we can continue to service that 98% as it pertains to biodiesel."

Gerhart says they really don't think of themselves as a biodiesel company,

though. "We are a terminal company, but having biodiesel is definitely an asset to us. The biggest opportunity is the ability to offer whatever blend, from B1 to B25, and we can do that in .5% increments at the push of a button." If they wanted, they could be even more precise, since the computer control system (proprietary, as mentioned above) will meter with a tolerance of 0.1%. "If it falls outside that tolerance, it shuts down and doesn't give the driver a bill of lading. We are very, very strong on the fact that whatever we sell has to meet spec." They seem to have that pretty well in hand.

PPC's goal is to be the most customer service oriented terminal operator out there, and so far, they feel their precise operations have given them an edge. They even educate their customers on how to educate their customers, all with the goal of increasing market share.

While their control system is precisely maintained, Gerhart says he thinks there may still be a need for tighter specs on biodiesel itself (the impetus for their setting up their own specs). In fact, he thinks the levels set by ASTM or BQ-9000 don't go far enough, hence they are investing in their own on site lab to test the product coming in.

One thing is certain, as is evident from their investment in biodiesel: PPC is absolutely convinced they are here to stay and will gain in prominence as time goes on. After all, they have more than one hundred million reasons to think so.



## Where the future is made

**B**rookhaven National Laboratory, Upton, NY, is a multi-program national laboratory operated by Brookhaven Science Associates for the U.S. Department of Energy (DOE).

Seven Nobel Prizes have been awarded for discoveries made at Brookhaven.

Brookhaven has a staff of approximately 3,000 scientists, engineers, technicians and support staff and over 4,000 guest researchers annually.

### What is your experience with biodiesel?

At Brookhaven we have been involved in the efficiencies and combustion of oilheat for many years.

Our involvement with biodiesel started when we were approached by the National Renewal Energy Laboratory in Colorado with a question about this new thing called biodiesel. That triggered our interest, as we were looking for a renewable fuel to replace oil in home heating. We did some biodiesel combustion testing here in the lab and were very impressed with what we saw. Biodiesel's combustion performance really impressed us. We also looked at its blending properties and that impressed us as well. That gave us the confidence to launch into a number of different projects, both here in the lab as well as in the field.

Of course, we looked at how the heating system would run with biodiesel. We started with B100 and as we moved the ratio downward, we didn't see too many differences

between various biodiesel blends and #2 distillate, which is good. We were confident the systems could run properly with biodiesel blends.

One important aspect of biodiesel is its lack of sulfur. It is essentially a sulfur-free fuel and that gives us a dramatic reduction on sulfur dioxide emissions. This allows for a cleaner heat exchanger. It is the sulfur in oil that causes the fouling of heat exchangers and lowering the sulfur not only keeps the heat exchanger clean, it lets it operate more efficiently longer. That is a really positive attribute of biodiesel.

### 'The environmental benefits of biodiesel are huge.'

We just finished a project with Fulton Boiler Company, sponsored by the New York State Energy Research Development Authority, where we converted a large commercial boiler to run on natural gas or B100. Due to the absence of sulfur in the B100, the boiler was able to run at its most efficient condensing mode with either fuel. That is a huge advantage of biodiesel, the ability to run more efficient equipment.

### Does the availability of biodiesel have an effect on the R&D of heating appliances?

It does, the Fulton project is one example and there is other research into new burner types that use the favorable vaporizing characteristics of



*A chat with Dr. Tom Butcher, Leader of the Oilheat Program at Brookhaven National Laboratory*

biodiesel to allow combustion. Biodiesel provides unique advantages that we think we can use. It is a new fuel and it has some new and different properties and characteristics that we need to pay attention to.

### Does the feedstock have an effect?

Yes, mostly on the handling behavior. When we were doing the tests on the Fulton Boiler we were looking at both soy and tallow based biodiesel. Tallow has low temperature flow issues—it will gel-up at about 52 degrees. Obviously, that is not going to work for heating in the winter. With soy, we don't have that problem, and for low temperature flow properties, soy is clearly the better choice.

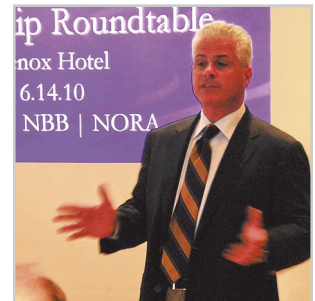
### Is there a measurable environmental impact of biodiesel and Bioheat®?

Absolutely. First, it is a renewable fuel and we have all the advantages that go along with that. Then, the absence of sulfur in the fuel and the resulting higher efficiencies can reduce the amount of oil that is actually used. The particulate emissions (pollution) are also reduced. These reductions can be direct in line with the amount of biodiesel in the blend. The environmental benefits of biodiesel are huge.

# Bioheat Events: Massachusetts

## East meets West in Massachusetts

Clockwise from top right:  
**Eric Slika**, President, CEO and Director, Global Partners, LP;  
**Paul Nazzaro**, President, Advanced Fuel Solutions, Inc., representing the National Biodiesel Board;  
**Donald J. Farrell**, Publisher of Oilheating Journal



*Dave Glendon (standing), President & CEO of Sprague Energy Corp. was one of several prestigious speakers invited to explain how biodiesel and heating oil work well together. He is shown here speaking at Boston's Lenox Hotel on June 14, 2010.*

*Soy Board representatives from a number of Midwestern States attended and enjoyed the Boston Bioheat Tour, sponsored by the National Biodiesel Board, NORA and the Massachusetts Oilheat Council (see following pages).*



The National Biodiesel Board, the National Oilheat Research Alliance and the Massachusetts Oil Heat Council took the unprecedented step of inviting soybean growers from the western states to the East Coast, in the heart of Oilheating country, no less, to show them that their product has a ready made market in the form of Bioheat®, heating oil blended with soy-based biodiesel.

What's more, the synergistic relationship is bidirectional, in that while the oilheat industry provides an outlet for their product, the agricultural factor in this country reciprocates with its considerable influence in Washington. That is to say, regulators are more willing to listen to the

nation's farmers than the oil industry, which should be helpful when attempting to get biodiesel related issues moving more quickly through a log-jammed Congress.

The largest source, although not the only one, of biodiesel is soy, and with mandate legislation pending in a number of states, the "fuel of the future" is on its way.

The consensus in the oilheat industry is that a biodiesel, added to an ultra-low sulfur heating oil, is the product that not only makes oilheating competitive with natural gas, but in environmental impact, is a better choice.

Representatives of a number of Midwest soybean promotional councils

as well as the United States Soybean Board were apprised of the oilheating industry's interest and need for a reliable supply of biodiesel at a meeting (shown on this page) in Boston's Lenox Hotel in June. The guest speaker lineup was impressive. Paul Nazzaro, who writes on Bioheat® for *Oilheating Journal*, represented the NBB and organized the meeting.

The first step was to explain to the visitors how the heating oil industry is structured, and its contribution to the public. *Oilheating Journal's* Publisher, Donald Farrell, presented an overview of the heating oil industry and the emerging technology that should make it the fuel of the

future. He showed how the industry has responded to the challenge from other fuels with high efficiency equipment and improved fuels.

He also explained to the guests that a cooperative effort between those who supply biodiesel and those who need the product—an assured market—is beneficial to the growers, the oilheat industry, the consuming public and the environment. In short, he said, there are no losers in this scenario.

Providing a reliable, dependable oil supply is the task of the wholesale distributors. To best explain how heating oil is stored and distributed throughout the heating oil region of the country, no less than the heads of two major heating oil wholesalers, Eric Slifka, President and CEO of Global Partners, LP, and David Glendon, President and CEO of Sprague Energy Corporation, were on hand to provide a candid, behind the scenes view of the complexities of petroleum allocation. They discussed pipelines, overland routing, the realities of supply and the logistics of keeping America warm.

Explaining the technology behind high efficiency equipment was Dr. Tom Butcher, Brookhaven National Laboratory. BNL has conducted extensive testing of biodiesel, including the use of 100% biodiesel in a commercial boiler (see page 27).

Other speakers included those from the National Biodiesel Board, the Massachusetts Oil Heat Council, the National Oilheat Research Alliance, the Nebraska Soybean Council, as well as local oil dealers, who further explained the oilheating industry's goals. Visitors were also treated to a tour of "Oilheating country" prior to leaving Boston for the second part of



# Biodiesel Events: Massachusetts



*The Waltham meeting was concluded with an interactive panel of Massachusetts wholesale distributors, who fielded questions from the audience.*



**Mike Ferrante**  
Massachusetts Oil Heat Council

the conference, held at the Westin Hotel in Waltham, MA (shown on these pages).

The Waltham meeting was preceded by a live audio conference connected to a number of Midwest newspapers and electronic media. On hand to answer questions were representatives of the NBB and Midwest soy growers.

At the Westin, shown on these

pages, it was standing room only. This part of the conference was hosted by MOC. Themed "Ingredients for Change," MOC's Michael Ferrante explained Massachusetts' recent proposed, but currently tabled mandate requiring the progressive increase in biodiesel year after year, beginning with 2% and ramping up annually. A significant portion of the attendees, many of whom were New

England oil dealers, attended for clarification on this issue alone.

MOC also arranged for Dr. David Cash, who is with the Massachusetts Executive Office of Energy and Environmental Affairs, to explain Massachusetts' point of view on its proposed mandate.

Although the mandate was planned to take effect in 2011, the logistics of tracking the product as it enters from





*Dr. David Cash, Massachusetts' Executive Office of Energy and Environmental Affairs.*



*Photos above, left to right: Elizabeth Warren, Mass Biodiesel; Len Bicknell, President, Alvin-Hollis; and ED Otis, Fleet Manager and Kristin Capone, Sales Manager, Atlas-Glen-mor.*

various states, for both tax purposes as well as satisfying the mandate, proved to be obstacles not easily overcome. Massachusetts has, in its place, instituted a voluntary compliance program. Without the mandate, it rests on the oilheating industry to be aggressive and progressive in bringing Bioheat® to its customers. The National Oilheat Research Alliance and its member state associations,

endorse and encourage the move to Bioheat®. Also on hand were a number of local heating oil marketers who are currently selling Bioheat®, including Elizabeth Warren, of Mass Biodiesel; Len Bicknell, President of Alvin-Hollis; and Joe DeRosa, President and Kristin Capone, Sales Manager, Atlas-Glen-mor.

Michael Devine, President of Earth Energy Alliance, explained the

pressing need to adopt biodiesel and ultra-low sulfur, echoing Paul Nazzaro's contention that the prime mover toward bioheat is market attrition. If nothing is done, the home heating oil market will continue to shrink until it is no longer viable.

The day ended with a panel of wholesale distributors from the region, who fielded audience queries.



*Michael Ferrante, Massachusetts Oil Heat Council (at podium at right and in the photo at the top of facing page), hosted the Massachusetts Bioheat Conference, shown here at the Westin Hotel, in Waltham, MA. There was keen interest in the state's recently proposed Biodiesel mandate, which, among other provisions, would require oil dealers to include a percentage of biodiesel blended into their heating oil. The state has since called for a voluntary effort. Seated to Ferrante's immediate right, NORA's John Huber and NBB's Paul Nazzaro (far right).*

*Success  
Stories*



*Success  
Stories*