

Client of the Month ~
GUARDIAN FUEL & ENERGY SYSTEMS INC.

With a reputation for honesty, hard work and more than a dozen years in the home heating industry, Randy Lohr started **Guardian Fuel and Energy Systems, Inc.** in 1993. Randy and his wife Jamie continue the company as a family-owned business that is committed to live up to its name. '**Guardian**' reminds the staff that their job is to provide safety and protection to the company's customers, the community and the environment. 'Energy Systems' means they are committed to finding practical and cost-effective energy solutions for homeowners and businesses. They're really a home comfort company, dedicated to providing you **security of supply**, where you need it, when you need it, at the best price for the best product they can offer you.

Guardian Fuel & Energy Systems, Inc. is not just a business, they are a SERVICE business. That means they are committed to serve you in the most efficient and cost-effective way possible. This is not always easy; there is uncertainty in the petroleum market, where pricing can vary due to public policy, supply, weather conditions, commodity trader 'whims', and conflict in our geographic supply areas. They figure it this way...if they keep you informed, then you will make an educated decision...the right decision for you.

Part of that quality of service and education policy is offering the latest in renewable energy with biodiesels for home heating and for vehicle/marine/equipment use. Guardian Fuel offers **BioDiesel** and **BioHeat** to their customers.



What are biodiesels?

Biodiesels are alternative fuels made from renewable resources. They may be produced from American crops such as soybeans, corn, or cotton, or from animal fats, or even from reclaimed food service oils. Biodiesels are used as a replacement for, or blended with petroleum (fossil) fuels.

Why do we need 'biodiesels' now?

There are a number of important reasons for our country to be using biodiesels. Perhaps the most important and most debated is that no one knows **how long our world's petroleum resources will last**. Because biodiesels are **made from renewable sources**, developing the technology to produce them *now* will ensure an ample supply of transportation and heating fuel for the future, and provide assurance against the uncertainty surrounding the petroleum resource timeline.

Aside from guaranteeing the longevity of the supply system, **biodiesels are produced domestically**, from feedstocks which are **grown domestically**. This **creates jobs** and helps **reduce our country's trade deficit**. The American biodiesels industry is estimated to add \$24 billion and 39,000 jobs to the U.S. economy by 2015. Our agricultural community especially stands to benefit, since most biodiesels are made from crops and agricultural residues, providing options for new valuable crops, and new uses for existing crops and residues.

Producing our fuels domestically also improves our **energy security**; we become less dependent on the strategic, political and economic whims of other countries. With continued Middle East turmoil it is important to remember how vulnerable we are, and how heavy our reliance is on imported oil.

Finally, producing and using biodiesels is much **better for the environment** than burning fossil fuels. Biodiesels produce fewer harmful emissions during production and in combustion, and they contribute virtually no carbon dioxide to the atmosphere, which is very important for reducing the build up of greenhouse gases.

Biodiesel was among the first alternatives to be considered for good reason.

Transportation - Biodiesel can be used in any diesel engine, usually with no modifications, and no conversions required. It can be blended with distillates at any level, and in fact blends seamlessly with conventional fuel oil. It is similar to diesel in performance and is used, handled and stored in the same manner as conventional diesel fuel. More than 80 fleets use biodiesel in blends of 20% or less, and it has been proven successful in more than 40 million on-road miles, plus countless off-road and marine miles. (All branches of the U.S. military use biodiesel. The city of Toronto uses B-20 in the summer and B-5 during the winter months for all municipal vehicles with diesel engines: fire trucks, school and city buses.)

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Heating - Biodiesel fuel is compatible with No. 2 heating oil (a product refined from crude oil). As with transportation, biodiesel is blended with petroleum fuel for optimum performance in blends 20% or less. **BioHeat fuel blends** burn cleaner, leading to lower maintenance costs, reduce toxic emissions for improved health and a cleaner environment. The use of biodiesel to heat homes and buildings is common practice in Europe. With the **benefits of immediate environmental effects, economic, energy security, and enhanced fuel quality**, the momentum is building for the use of **BioHeat** here in the United States.

What environmental benefits are there to using BioHeat and BioDiesel?

The use of **BioHeat** and **BioDiesel** has immediate positive effects on the environment:

- *Carbon Monoxide* ~ **BioHeat** fuel blend reduces the amount of carbon monoxide because it's a renewable fuel.
- *Sulfur Dioxide* ~ **BioHeat** fuel blend reduces the amount of sulfur dioxide produced by furnaces and boilers in the home.
- *Biodegradable & Non-Toxic* ~ United States Department of Agriculture tests confirm that B-100 is less toxic than table salt and biodegrades as quickly as sugar.
- *Better Air Quality* ~ While relatively new to heating systems, biodiesel fuel has been used by the trucking industry across the country for a number of years. Major carriers use biodiesel within their fleets to meet federal mandates for air quality.
- *Preserves Open Space* ~ U.S. farmers are struggling to maintain profitability on their farms. When farming is no longer viable, the land is often sold and developed, with a permanent loss of open space. Growing feedstock for biodiesels can be a viable option for previously underutilized farmlands.

How can using BioHeat and BioDiesel blends benefit our nation's Economy?

- *Domestically Produced Product* ~ While soybeans (used as major feedstock currently) are grown the world over, the U. S. produces the most soybeans of any nation. This benefits the American farmer as well.
- *Reduces Our Dependence on Foreign Oil* ~ Because soybeans are grown domestically, biodiesel blends can do their part to lessen our dependence on foreign oil. With a 20% blend, we cut our need for oil by 20%.
- *Security of Supply* ~ Our dependence on one source of fuel means our supply is always at risk. Diversifying our fuel sources will help to ensure a more stable fuel supply for our growing needs.
- *Fuel Price Stability* ~ Diversifying our fuel sources will help to relieve the volatility in fuel prices.

The Central Atlantic and New England states use approximately 75% of the heating oil burned annually in the U.S. By replacing 20% of those fossil fuels with renewable, American produced biodiesel, we could reduce our nation's total heating oil consumption by 15%, or an astonishing 22.5 million barrels annually.

Guardian Fuel & Energy Systems, Inc. is a member of the National Oil Heat Research Alliance (NORA). NORA has launched an ambitious research program to improve both fuel and equipment to create an improved environment for oilheat customers over the coming years. Their program will be used for consumer education, oilheat research and development, and technical training to benefit the consuming public and the industry. The National Biodiesel Board (NBB) is the national trade association representing the biodiesel industry as the coordinating body for research and development of biodiesel in the United States. **Guardian Fuel** and the NBB are committed to ensuring biodiesel fuel quality for a seamless transition from standard petroleum fuels, to today's clean-burning, American produced, **BioHeat** and **BioDiesel** products.

Guardian Fuel & Energy Systems, Inc. provides service in such area towns as:

RI ~ Westerly, Watch Hill, Misquamicut, Wakefield, Charlestown, Hope Valley and towns in between.

CT ~ Pawcatuck, Stonington, N. Stonington, Mystic, Groton, Ledyard, New London and towns in between.

For more information on **GUARDIAN FUEL** as well as biodiesels, go to their website:

www.guardianfuel.com. Or call them at (CT) 535-9411 or (RI) 596-6566.

Information provided for you by **Marilyn K. Dayton, Business/Marketing Specialist**
<http://maredayt.homestead.com> ~ maredayt@yahoo.com ~ 860-389-2521

