



NYC is Warming Up to Biodiesel

FAQs on Using Biodiesel for Heat

Biodiesel can be blended with heating oil to heat buildings of all sizes. Biodiesel for heating, sometimes called bioheat or biofuel, works in any regular heating fuel application, such as residential heating oil equipment or commercial boilers. Heating systems that run on ultra-low sulfur No. 2 (ULS 2) can generally switch to biodiesel with little to no modification. The ratio of heating oil to biodiesel can vary, but it is most often as B5 (5% biodiesel, 95% heating oil), B10, or B20.

What is Biodiesel?

Fuel standards: The industry standard for biodiesel is ASTM D6751, which ensures that biodiesel is good quality, will perform consistently, and meets certain criteria (such as flash point and viscosity). Currently ASTM has set standards for blends up to B5, but this is expected to grow over the next few years.

Citywide Mandate: If you are burning oil for heat now, you are already using biodiesel! In July 2010, the New York City Council passed a measure, known as Local Law 43, requiring all grades of heating oils to contain lower sulfur content and at least 2% biodiesel as of October 2012. This mandate makes New York City a national leader in mandated biofuel use for heating. This also means that New York City sells the cleanest available heating oil in the country.

Is it ethanol? No. Biodiesel can be created from a wide array of first generation and waste products.ⁱ Biodiesel is derived from mainly vegetable oils, such as soy, palm, or canola, though it can also be produced from recycled oils such as cooking oils from restaurants right here in NYC. Ethanol available in the U.S., on the other hand, is generally made from corn and has a different chemical composition than biodiesel—ethanol cannot be blended with heating oil.

The Benefits of Biodiesel

Environmental: Biodiesel blends allow you to benefit from the low sulfur content of ultra-low sulfur No. 2 (ULS 2) and the low carbon emissions of biodiesel. Biodiesel is non-toxic, biodegradable, and renewable. NO_x, sulfur, carbon monoxide, hydrocarbons, and particulate matter are all reduced when using biodiesel.ⁱⁱ Biodiesel makes NYC's air safer to breathe and helps us reduce our carbon footprint.ⁱⁱⁱ

Maintenance: Cleaner fuel means higher efficiency and lower operating costs. Because biodiesel is a solvent, bioheat also keeps the fuel system cleaner. Since soot does not build up on nozzles, burners, and filters, maintenance calls are reduced and many routine services may be done on a longer time interval.

Cost: Cash in on New York State's **biodiesel tax credit!** For each percentage of biodiesel purchased, a building will receive a one cent tax credit or rebate per gallon. For example, a building burning B10 blend (10% biodiesel and 90% heating oil) would receive 10 cents back for every gallon purchased in the year. 20% is the maximum eligible amount. Furthermore, while the heating oil market varies with global geopolitical situations and the demand for oil, the biodiesel market varies with the price of vegetable oil commodities like soybeans. Therefore, using a biodiesel blend can be a hedge against volatile oil prices.

Visit nyc.gov/cleanheat for more information or contact NYC Clean Heat by calling **311** or sending an email to info@nycleanheat.org.

Case Study: Upper West Side Condominium Complex

This building complex started burning 100% biodiesel for heat in the Spring of 2012. No mechanical issues with the heating system have resulted from the switch from ULS 2 to biodiesel. The condo is even seeing a cost benefit from the switch since they are able to purchase biodiesel at \$0.10 less per gallon than straight ULS 2 fuel oil. In addition, the building is able to get money back at the end of the year due to the New York State tax credit for biodiesel. The board is proud to know that their heating system produces almost no air pollutants and very little greenhouse gas.

Getting Started

Shop around: Converting to a ULS 2 blend with biodiesel gives you the opportunity to find the best deal, as there is a greater diversity of suppliers in the ULS 2/biodiesel market than in the No. 6 and No. 4 heating oil market. Local dealers can be found on bioheatonline.com.

The Clean Heat program is working with a number of ULS 2/biodiesel conversion specialists that are offering a range of incentives to help you make the switch. Please visit the NYC Clean Heat website for a list of partners.

Assess your system: Just like with any fuel conversion, you will need to assess your current heating system to understand what the scope of your project will be. Many buildings are able to make the switch with nothing more than a cleaning and tuning of their existing system but others may have to replace old equipment, like a burner. The ULS 2/biodiesel conversion specialists can also help you assess your system.

Financing: Need to replace a major piece of equipment like a tank or a burner? NYC Clean Heat can connect you to [financial partners](#) for loans, leasing, and credit enhancement. Plus, buildings converting directly to ULS 2 avoid the need for switching fuel twice.

Resources and Information

NYC Clean Heat's list of ULS 2/biodiesel conversion specialists

<http://nycleanheat.org/content/uls-2-conversion-specialists>

Need help understanding the process of fuel switching? Check out NYC Clean Heat's "How to convert"

<http://nycleanheat.org/content/how-to-convert>

"Advantages of Biodiesel Fuel Blends for Home Heating," *Mother Nature Network*, 28 November 2012.

<http://www.mnn.com/earth-matters/energy/stories/advantages-of-biodiesel-fuel-blends-for-home-heating>

"Bioheat Basics," Bioheat Online. http://www.bioheatonline.com/about-bioheat/#.UY1j_qKG1-0

"Bioheat," New York Oil Heating Association (NYOHA). <http://www.nyoha.org/bioheat.php>

ⁱ <http://www.eia.gov/biofuels/biodiesel/production/>

ⁱⁱ USEPA AP-42 and <http://www.bnl.gov/isd/documents/71376.pdf>

ⁱⁱⁱ NY Mayor's Office of Long-Term Planning and Sustainability, *Assessment of New York City Natural Gas Market Fundamentals and Life Cycle Fuel Emissions, 2012*