



December 23, 2006

What Difference Can Biodiesel Make?

What kind of difference can the use of biodiesel make when it comes to changing the world for the better? Perhaps the biggest impact of the use of biodiesel fuel instead of just plain diesel is on human health and the environment.

One of the biggest differences that biodiesel can make is with regards to smog. Using biodiesel actually reduces smog. Both unburned hydrocarbons and nitrogen oxides in diesel fuel account for most of the particulates in air pollution. When you use biodiesel product or homemade biodiesel there is a substantial reduction of unburned hydrocarbons if you are using a blend that is right for your machine. Tests that have been conducted according to EPA regulations have shown that the hydrocarbon exhaust emissions from biodiesel are half of that measured for diesel fuel.

Can biodiesel make more energy? Unlike the burning of fossil fuels, the burning of biodiesel fuels actually gives back more energy to the environment that it takes. Lifecycle studies of biodiesel production show that for every unit of fossil energy it takes to manufacture fossil fuel, 3.2 units of energy are gained. This kind of lifecycle study examines the impact during all phases of biodiesel production including its transportation, production and distribution to the biodiesel fuel customer.

Can biodiesel make a difference when it comes to reducing the effects of global warming? The answer is yes. The overall lifecycle emissions of carbon dioxide (a major greenhouse gas) from biodiesel are 78% lower than the overall carbon dioxide emissions from petroleum diesel fuel!

Can biodiesel make a difference when it comes to reducing acid rain? Once again the answer is very positive. The overall lifecycle emissions of sulphur oxides (major components of acid rain) from biodiesel are 8% lower than overall sulphur oxides emissions from regular diesel fuel. It's a start.

Can biodiesel make a difference when it comes to producing acid rain? The overall lifecycle production of waste water from biodiesel production is 79.0% lower than overall production of wastewater from diesel fuel. To put it another way, petroleum diesel makes roughly five times as much wastewater flow than biodiesel can make.

Can biodiesel make a difference when it comes to lung cancer and asthma? Scientific research confirms that biodiesel exhaust is less harmful to humans than diesel fuel exhaust because it lacks aromatic compounds. The purer the biodiesel fuel is the less likely it is to create the cancer causing compounds polycyclic aromatic hydrocarbons. Most of the poisonous compounds common to diesel exhaust are reduced by 75 to 85 percent by using biodiesel fuel. Biodiesel is also easier on the lung because it reduces the emission of the types of particulate matter that cause asthma and other lung disorders by about 47 percent.

Additionally biodiesel makes less soot. Studies have shown that biodiesel reduces the total amount of particulate matter soot in bus tailpipe exhaust by as much as 83.6%. Soot is the heavy black smoke portion of

REPRINTED FROM: Ash Reid, Eutech Associates 2nd Floor, 145-157 St. John Street, London, EC1V 4PY, United Kingdom



the petroleum diesel fuel exhaust that consists of 100% carbon. It has been suggested that diesel soot produces cancer.

How can you use biodiesel to make a difference? Burning just a 2% biodiesel blend in on-road vehicles that usually take diesel fuel will curtail all kinds of harmful emissions. Annually this one action has the potential to reduce poisonous carbon monoxide emissions by more than 35 million pounds, reduce ozone forming hydrocarbon emissions by almost 4 million pounds, reduce hazardous diesel particulate emissions by almost 3 million pounds and reduce acid rain-causing sulphur dioxide emissions by more than 3 million pounds. That's a big difference!