

BIODIESEL CO2 CREDITS COULD BECOME A VALUABLE TRADING COMMODITY FOR FLEETS

By Sharon Bell, National Biodiesel Board

The carbon credit trading system is up and running in the U.S. Currently, carbon credits are trading on a "voluntary market." The U.S. is considering a cap and trade market where carbon emissions are limited or "capped" for industries and companies. Even in a voluntary market, many companies are gearing up for buying and selling carbon credits either to make up for a short fall in carbon reduction or to make money from carbon reduction measures. Biodiesel is one of the tools used to cut down on carbon or more specifically, carbon dioxide (CO₂) and therefore develop credits for trade.

Credits are measured in metric tons and are tradable on the Chicago Climate Exchange (CCX) and an over-the-counter (OTR) exchange in the U.S. The 2007 trading volume for both exchanges was \$330 million in 2007. Credits are currently trading at a little over \$3 a ton. This may not seem like much, but consider that even a small-medium-sized fleet could potentially save thousands of tons of CO₂ a year just by using a B20 blend, 20 percent biodiesel, 80 percent petro-diesel blend.

CCX has developed standardized rules on the basis of displacement of CO₂ emissions associated with fossil fuels. About 22 lbs. of CO₂ is burned per gallon of petroleum diesel and biodiesel can offset this by varying degrees depending on the percentage blend. According to a 1998 biodiesel lifecycle study, jointly sponsored by the US Department of Energy and the US Department of Agriculture, B100 soybean oil biodiesel reduces net CO₂ emissions by 78 percent compared to petroleum diesel. At a B20 blend, about 16 percent or a little over three pounds of CO₂ are offset per gallon.

Companies that can show a measurable decrease in CO₂ can sell those tons as credits to companies that are not showing a decrease in CO₂ and need to make-up the shortfall. At this time, the CCX rules applies to biodiesel used over and above what is state-mandated. A similar system is in place in the European Union called The Emission Trading Scheme (ETS). It is based on allowances and reduction targets for each country as set in the Kyoto agreement. There, CO₂ credits are trading for around \$30 a ton with a volume of over \$60 billion in 2007.

To help fleets understand the impact of biodiesel on CO₂ reduction, the National Biodiesel Board is conducting a pilot study along with Indigenous Energy of Chicago to study the CO₂ reduction of a California-based fleet, States Logistics. States Logistics uses B5 and B99 in seven 2007 trucks, running on average approximately 27,000 miles a month. The pilot program takes into account several areas to measure CO₂ reduction including vehicle type, distance traveled, number of gallons used, percentage of biodiesel used and biodiesel feedstock type such as soybean oil. The end result is a report on total CO₂ emitted from both the petroleum diesel and biodiesel, CO₂ reduction from using biodiesel and the quantifiable cost to offset petroleum CO₂. The pilot measures CO₂ reduction in tons to show how a fleet could eventually gain financially through an exchange program.

Currently, the main drivers for fleets to start using biodiesel are customer demand, lower cost in some areas of the country, and environmental stewardship. Biodiesel also adds lubricity to the fuel, helping to prolong the life of engines. Since the use of biodiesel does not require modification of diesel vehicles, cost of entry is minimal. Biodiesel has a cleansing

property, so truck fuel filters may initially clog, costing more up front as the fuel systems are cleansed. A study being conducted by Iowa Central Community College and Decker Truck Line, Inc. has shown results after almost two million over-the-road miles that biodiesel burned at B20 (20 percent, 80 percent petrodiesel) had no significant increase or decrease in fuel mileage. The study is using a control group and a test group of ten trucks each, one using straight petrodiesel and one with B20, and switching halfway, so that driver variability is taken into account.

As the CO₂ credit trading market develops, many companies will benefit from being proactive and implementing reduction strategies. If the U.S. government does implement a cap and trade program many companies will have to choose between investing in cleaner technologies or buying CO₂ credits. A wait and see attitude may result in higher demand for products and technologies and increased costs. Implementation of a CO₂ reduction strategy sooner rather than later allows for a more gentle introduction with expenses spread out over time.

Whether it is cost savings, concern for the environment, compliance with government programs, or customer driven, reducing CO₂ along with particulate matter and other emissions, makes sense for many fleets across the country. As Ryan Donovan, VP of Operations and Business Development at States Logistics said, "Many of our customers on the west coast and other areas of the country are looking to reduce their carbon footprint and emissions. Since we use biodiesel in all of our trucks our customers already have an advantage." □