

Government Issues

EPA Proposes New CO₂ Regulations and Reporting Biodiesel Offers Ready-Made Solution

*Sharon Bell, Shriver Productions,
National Biodiesel Board Trucking
Outreach*

In my last article on carbon dioxide (CO₂), I referenced voluntary carbon credit trading markets, including the Chicago Climate Exchange, as a reason to start tracking CO₂ reduction. In the three months since that article, the U.S. Environmental Protection Agency (EPA) has proposed adding CO₂ to the list of regulated pollutants—meaning it will be tracked and monitored by the Clean Air Act. A second proposed EPA initiative, introduced in March, establishes “a comprehensive U.S. system for reporting emissions of carbon dioxide and other greenhouse gases.” Both are steps “towards regulating pollutants that spur climate change.”

Starting in 2010, the EPA proposes requiring companies that emit more than 25,000 metric tons of CO₂ annually to report emissions. While that may sound like a lot of CO₂ it corresponds to about 2.5 million gallons of diesel fuel used per year, which is not uncommon for an average sized fleet. A recent demonstration by the National Biodiesel Board (NBB) and Chicago-based Indigenous Energy (developers of emissions tracking systems) concluded that in just six months and 109,000 miles a seven-

truck fleet would have emitted 161 tons of CO₂—that is if biodiesel was not in the mix. Multiply that by hundreds of trucks and double it for a full year and the figures can easily surpass 25,000 tons.

But, the biggest effect may be felt by the shippers -- your customers. Large manufactures that ship parts and cars all over the country, food producers that ship raw materials and finished goods, retailers that ship and warehouse goods then ship again to outlets and stores—all of these customers will feel the pressure to reduce their carbon footprint.

Biodiesel offers a ready-made solution. Fleets can help by carrying goods in trucks using biodiesel and passing resulting CO₂ reduction benefits on to customers.

According to a 1998 biodiesel lifecycle study, jointly sponsored by the U.S. Department of Energy and the U.S. Department of Agriculture, 100% soybean oil biodiesel reduces lifecycle CO₂ emissions by 78% compared to petroleum diesel. At the recent Mid America Trucking Show when the results of the six-month CO₂ demonstration (referenced

above) were presented, it was apparent that there is confusion over the significance of “life-cycle” CO₂ reduction. Fleet operators and truckers know that any fuel burned in an engine produces CO₂ at the tailpipe. Biodiesel and petroleum diesel both produce comparable carbon emissions. The difference lies in the big picture – the total CO₂ output in the life of a fuel.

The DOE/DOA lifecycle study looked at the whole picture from “cradle to grave,” beginning with extraction of raw materials following through to end-use applications (the study used an urban bus for demonstration purposes). Petroleum diesel operations included: extracting crude oil from the ground; transporting crude oil to the refinery; refining processes;



Government Issues

transporting the finished product; and usage. For biodiesel, major operations included: producing soybeans; transporting soybeans to a crushing facilities; recovering soybean oil at the crusher; transporting soybean oil to a biodiesel manufacturing facility; converting soybean oil to biodiesel; transporting biodiesel fuel to the point of use; and usage.

A major benefit of soy-based biodiesel is the fact that soybeans absorb CO₂ from the atmosphere in the growing process. They literally use solar energy and turn CO₂ into stored energy. This effectively recycles CO₂ in the atmosphere because the same CO₂ released from biodiesel combustion is taken up in the next soybean crop. Crude oil releases CO₂ when pulled from its' containment under ground. As Pete Probst, Director, Research and Development for Indigenous Energy stated, "The combustion of fossil fuels, such as crude oil, brings additional CO₂ into the atmosphere, but there are no additional crops dedicated to absorbing the extra carbon emissions. Thus the carbon emissions from fossil fuels accumulate across the globe and contribute to climate change."

The DOE/DOA study concluded that B100 reduces lifecycle CO₂ emissions by 78.45% and B20 by 15.66% compared to petroleum diesel. Thus, replacing petroleum diesel with biodiesel "is an extremely effective strategy for reducing CO₂ emissions" according to the study's authors.

The study also looked at energy inputs and output. Producing soybean biodiesel provides 3.5 units of energy for every one unit of energy used according to DOE and DOA. Petroleum has a

negative return, with a one unit of energy used for .83 unit of energy returned.

The result is that truckers, who use a B20 blend, are offsetting about 16% of CO₂ per gallon. The reduction is a little over three pounds per gallon, which sounds like peanuts compared to 25,000

tons, but for many shippers, reductions will quickly add up.

Currently, the main drivers for fleets to start using biodiesel are customer demand for reduced carbon footprint, lower fuel cost in some areas of the country, and environmental stewardship. But as the CO₂ reporting and credit

LITE-CHECK
AUTOMATED TRAILER TESTERS

A complete family
of solutions...

TRAILER TESTERS!



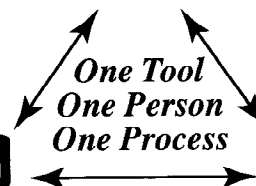
INSPECTOR 910B

Designed to...

Drive trailer inspection and maintenance costs down

Improve the productivity and effectiveness of every technician

AIR BRAKES



LIGHTING

ABS

- ✓ Automated **Lighting Tester** with faults identified and displayed in plain text
- ✓ Complete **Air System Tester** identifies internal & external leaks
- ✓ "ONE-BUTTON ABS" provides a true **ABS Test and Troubleshooting** system

Diagnostic software for:
MERITOR, HALDEX, and BENDIX

www.lite-check.com
800-343-8579 509-535-7512



* Circle 12 on Reader Service Card *

