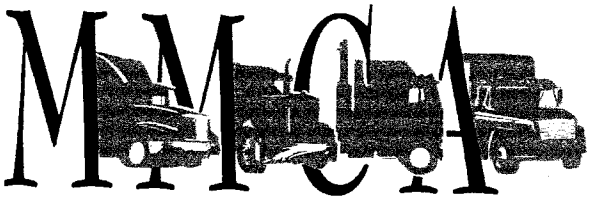
EXHIBIT 8
DATE 3-26-07
SB SB 432



MONTANA MOTOR CARRIERS ASSOCIATION

501 NORTH SANDERS #201 HELENA MT 59601 406-442-6600 FAX 406-443-4281 www.mttrucking.org

Testimony SB 432

Mr. Chairman members of the committee for the record I am Barry Stang Executive Vice President of the Montana Motor Carriers Association. MMCA and its 800 members would like to go on record in opposition to SB 432.

We urge you to vote NO on Senate Bill 432 which would mandate up to a 5% minimum biodiesel content for diesel fuel sold in Montana The trucking industry supports the voluntary use of low percentage blends of biodiesel and is advocating the inclusion of biodiesel in the national diesel fuel standard. The trucking industry adamantly opposes state biodiesel mandates, which disrupt diesel fuel markets, raise fuel quality concerns, and disadvantage local trucking companies. .

Biodiesel Mandates Result in Higher Diesel Prices for Consumers:

□ Biodiesel is significantly more expensive to produce and distribute compared to petroleum-based diesel fuel. In the absence of generous federal subsidies due to expire in 2008, biodiesel typically costs $1 per gallon more than today's diesel fuel. In addition, state biodiesel mandates put additional pressure on the price of the feed materials used to make biodiesel, which further increases the cost of biodiesel production.

□ Biodiesel does not move by pipeline and must be distributed using tank trucks and rail cars. The fact that biodiesel does not move by pipeline further increases its costs.

□ Boutique fuel mandates eliminate competition and results in higher fuel costs, placing locally-based trucking companies at a competitive disadvantage. □ Boutique diesel fuels (including biodiesel) prevent the rapid response to supply shortages, resulting in price spikes that are devastating to the trucking industry._

□ A federal approach to increase biodiesel use is being pursued and will result in increased biodiesel production, while minimizing market distortions that are harmful to consumers.

Quality Concerns

- Biodiesel is relatively easy to make, however, high quality biodiesel is difficult to consistently produce.

- Last winter, the trucking industry experienced problems in Minnesota caused by poor quality biodiesel. In fact, the Minnesota mandate was suspended twice as a result of poor quality biodiesel.

- More recently, the National Biodiesel Board, in conjunction with the National Renewable Energy Laboratory, conducted a survey of 40 biodiesel producers and found that one-third of the samples taken did not meet the American Society of Testing Materials (ASTM) quality specifications. This survey resulted in the NBB issuing a winter weather advisory on biodiesel use.

- We do not see in this bill who is going to be responsible for monitoring and assurance that quality controls are met although the fiscal note assumes it is the Department of labor and industry.

Operating Concerns:

- Biodiesel has a lower energy content than petroleum-based diesel fuel, which reduces fuel economy and requires the end-user to purchase more fuel to do the same amount of work.

- Biodiesel reduces cold weather performance and causes diesel to gel at a higher ambient temperature.

- Biodiesel may act like a solvent and could cause fuel filters to clog. The need to change fuel filters ahead of ordinary maintenance schedules increases maintenance costs.

What happens if the standard is removed for a short time, what happens to the bad product that is left in the tank, is it blended with regular diesel that is then put into the tank or is the retailer required to remove bad product.

I have also attached a couple of articles that have been put out by the national Biodiesel Board in regards to the lack of standards in the industry and that buyers should beware when

purchasing biodiesel. And a position paper from ATA which outlines the industries stance on Biodiesel.

In addition to the articles on biodiesel I have also attached an article that describes the problems that have been associated with the new Ultra Low Sulfur Diesel in some states this winter. The industry needs time to adjust to these standards and as individual states mandate different fuels the industry cant keep up.

Both the MMCA and The American Trucking Associations are willing to support a Federal biodiesel blend that has standards that must be used in all 50 states. It would be virtually impossible to build engines, filters and injectors that can deal with 50 different standards.

Members of the committee we respectfully urge you to vote no on SB 432.

EXTREME WEATHER LEADS TO DIESEL GELLING

ATA has become aware of widespread diesel fuel gelling problems, stranding trucks throughout Illinois, Indiana, Iowa, Minnesota, New York, Pennsylvania, and Wisconsin. Although some batches of ultra low sulfur diesel (ULSD) may be difficult to winterize with existing cold flow additives, according to EPA, the gelling problem is not directly related to the chemistry of ULSD. One major contributing factor to the gelling is the reduced availability of ultra low sulfur kerosene for blending. Another contributing factor may be that fuel terminals did not anticipate the extremely cold weather and have not properly treated the diesel fuel to improve its cold flow performance. Fuel terminals are responding to this issue and are working to ensure that the problem is addressed so that they may continue selling fuel that performs as expected. Questions concerning the performance of specific cold flow improvers have been raised. ATA members with information on the performance of these additives are encouraged to contact Rich Moskowitz, 703-838-1910 / rmoskowitz@trucking.org.

Group Warns on Biodiesel

TRANSPORT TOPICS November 27 2006

Half of Samples Fail to Meet Standards, NBB Says

By Andrea Fischer
Staff Reporter

The biodiesel industry's largest trade group has issued a "winter weather advisory" after 50% of the samples in a national test failed to meet quality standards.

The test included a specification for glycerin, which clogged fuel filters in Minnesota last year.

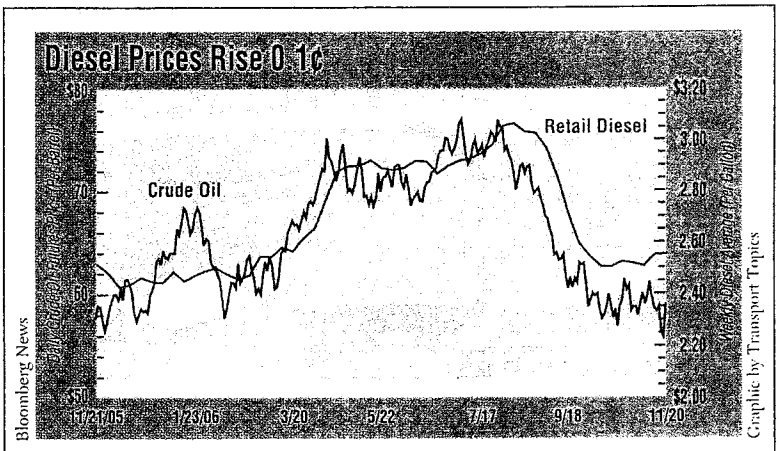
Although National Biodiesel Board officials would not say where the samples came from, the National Renewable Energy Laboratory, a co-sponsor of the test, said none of the bad samples came from Minnesota, which set standards for the fuel after last winter's clogging problems.

"NBB views these results as unacceptable," said Joe Jobe, head of the group. "This underscores the need for enforcement agencies to take action against those who aren't producing biodiesel that meets the existing standard."

"This is really a wake-up call for the biodiesel industry to produce fuel that meets the standards" so that quality problems "do not erode confidence in our industry," said Steve Howell, NBB's technical director. He added, "It's also a wake-up call for the trucking industry to buy their fuel from good suppliers."

Biodiesel proponents tout the fuel as a way to reduce U.S. dependence on foreign oil while improving the environment by lowering emissions. So far, tax reductions, fuel incentives and grants to encourage use of the fuel have been passed by legislatures in 30 states, Howell said.

(See BIODIESEL, p. 30)



The national average price of diesel inched up 0.1¢ to $2.553 last week, while oil prices stayed near $60. See story, p. 3.

Used Class 8 Sales Booming; Dealers Say '07 Also Looks Good

By Frederick Kiel
Staff Reporter

Sales of used Class 8 trucks are booming this year, just like they have for new vehicles. But, unlike new-truck dealers, the sellers of used units are looking forward to 2007.

While truck manufacturers are predicting a 30% to 40% drop in new sales next year as a new generation of cleaner-burning — but untested and more expensive — diesel engines is introduced, used truck dealers said they expect another strong year.

"No one wants to be the first to buy the new '07 federally mandated engine, so more people than ever will hunt down used trucks," Eddie Walker, president of the Used Truck Association, told TRANSPORT TOPICS.

"There's a definite trend upward in used Class 8 sales, estimates of 28,000 to 30,000 vehicles this year selling monthly, versus the normal 15,000 to 20,000," said Walker, who is also president of Best Used Trucks in Fort Worth, Texas.

While there is no official record kept of used truck sales, dealers and analysts estimated sales would total 300,000 to 360,000 units by the end of 2006, with prices rising constantly.

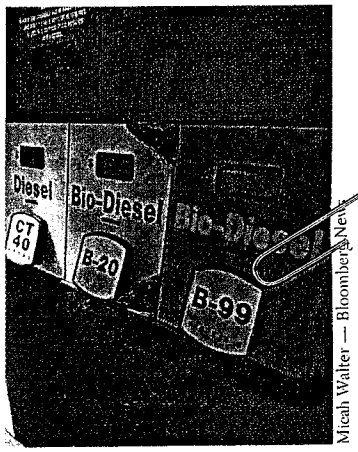
Terry Williams, managing editor of the Truck Blue Book, which tracks values and markets for used commercial trucks, agreed that 2006 sales will be higher than average, and next year will be good, too.

"The market has definitely gone up this year," Williams told TT.

"I can see it being 300,000 overall. I think the same thing will happen in 2007 that happened in 2002, when truckers grabbed up the glut of used Class 8s and sales of new trucks went down," he said.

Walker also agreed that 2007 looked bright for the used truck market, saying "2007 will be a down year for new truck makers but a

(See USED, p. 31)



Micah Walter — Bloomberg News

Biodiesel pumps at Cropper Oil & Gas in Berlin, Md.

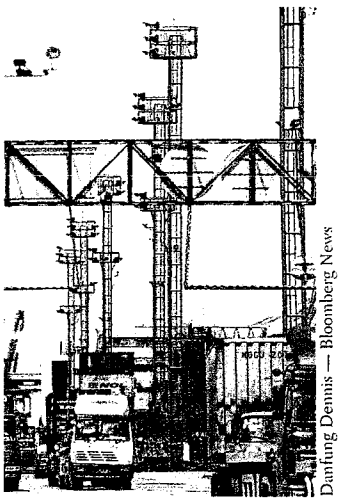
Bog Down ing Spree

's in the United States spend : 10%.

na's economic policy is gov- l by a large and strict bureau- dominated by the Commu- party, but it was only recently the government recognized nportance of developing the ics industry. Until the past few , it appeared that government ners believed that simply pro- g a first-rate highway network d rectify the slow and expen- novement of goods.

en as the nation has been rked on an enormous highway- ing program, spending more $57 billion on roads in 2004 and that amount annually since

(See CHINA, p. 28)



Danfung Dennis — Bloomberg News

es to load onto ships at the

enities to Lure Drivers

us and upgraded amenities, -speed wireless communica- s networks and new medical ces.

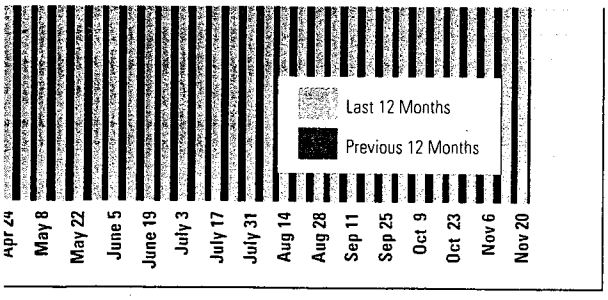
'e take care of more than fuel," David McClure, director arketing for Petro Stopping ers. The 63-unit chain, based El Paso, Texas, recently lled blood-pressure monitor- equipment and is working with npany in Knoxville, Tenn., to a network of health clinics me of its truck stops (see ed story, p. 9). The company so in discussion with Weight chers to provide food and counseling services for drivers.

"We provide all of a driver's needs on the road — a laundry, lounges, a movie theatre, store and restaurant," McClure said. "The challenge is economically making it work."

The increasing use of fuel optimization programs to track diesel prices has resulted in more drivers going to quick-service fuel stops to purchase diesel and parking at full-service truck stops for food and other amenities, McClure said.

For Petro to maintain separate

(See SERVICES, p. 8)



2 Weeks Ago	3 Weeks Ago	Prior Year
250.6	251.7	251.3
201.6	187.4	183.8
246.9	247.7	251.7
249.0	250.2	258.7
182.5	187.0	184.9
250.8	253.0	249.1
261.3	262.9	265.2
262.8	264.6	261.5
244.8	247.2	242.3
249.3	250.1	247.7
244.9	246.2	249.1
257.7	257.7	265.4
260.6	260.2	265.2
263.7	264.5	259.9

stations at the beginning of
)2-586-6966 after 4 p.m. or

Average prices for Comdata, formerly NTS Inc., are primarily from self-service stations, but also include some full- and mini-service operations. The seven-day average is based on Comdata cash-card transactions from more than 3,200 truck stops throughout the United States and Canada. All taxes are included.

T-Chek prices are Monday-through-Friday averages. The retail price is based on self-service purchases at more than 4,500 truck stops. All taxes are included.

The T-Chek wholesale price is based on terminals and suppliers from 308 cities throughout the United States.

The Bloomberg News wholesale price is an average of 163 U.S. low-sulfur diesel rack prices.

DOE's regional averages are drawn from its national survey of 350 diesel service centers.

PADD stands for Petroleum Administration for Defense District. Effective May 26, 1997, PADD 1 was divided into three subdistricts and the California subdistrict was created from PADD 5.

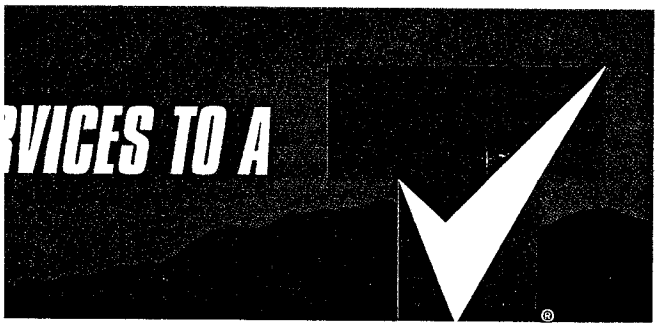
PADD 1 comprises the New England Subdistrict: Conn., Maine, Mass., N.H., R.I. and Vt.; the Central Atlantic Subdistrict: Del., D.C., Md., N.J., N.Y. and Pa.; and the Lower Atlantic Subdistrict: Fla., Ga., N.C., S.C., Va. and W.Va.

PADD 2 is Ill., Ind., Iowa, Kan., Ky., Mich., Minn., Mo., Neb., N.D., Ohio, Okla., S.D., Tenn. and Wis.

PADD 3 is Ala., Ark., La., Miss., N.M. and Texas.

PADD 4 is Colo., Idaho, Mont., Utah and Wyo.

PADD 5 is Alaska, Ariz., Hawaii, Nev., Ore. and Wash., plus Calif.



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to help you reach your
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There has been a shortage of diesel fuel" because of continued high agricultural demand, he said. Several Midwest states reported spot shortages of diesel earlier this month because of a late harvest and rising use of ULSD (11-20, p. 16).

Sapp said that some of his

because of a leak, Bloomberg News reported.

Crude futures closed at $60.17 on the New York Mercantile Exchange, up $1.37 that day, and had closed at above $60 just twice this month, both in the week of Nov. 6, Bloomberg figures showed.

Some Biodiesel Fails Tests

(Continued from p. 1)

NBB's members include petroleum companies, plus biodiesel blenders, suppliers and producers.

In the advisory, NBB warned truck fleet managers, petroleum distributors and consumers to be on the lookout for bad-quality fuel, and said it would work with local law enforcement agencies to identify suppliers who sell biodiesel that does not meet state fuel standards. Cold weather can amplify problems caused by fuel that does not meet specifications, NBB said.

"We'd like to enlist the trucking industry in helping us monitor biodiesel quality by making sure they're requesting high-quality fuel," said Howell. He added that the board hopes the trucking industry will see the advisory as an assurance that biodiesel quality is being monitored, rather than a reason not to use the fuel.

Nevertheless, trucking executives said they remained wary of biodiesel, avoiding it if possible, especially after experiencing quality problems that plagued the industry in Minnesota last winter.

Patrick Quinn, co-chairman and president of U.S. Xpress Enterprises, said his company "avoids buying [biodiesel] wherever possible." He said the company had more trucks and engines freeze up during the past winter than in the previous 10 years combined.

Quinn also is chairman of American Trucking Associations.

"We went through a lot of headaches with that stuff last year and we haven't experienced any problems yet this year, but we're still operating in mild temperatures," said Mark Siemers, president of Wayne Transports, a Rosemont, Minn., tank-truck carrier. "Life was kind of miserable in our business for awhile; [biodiesel problems] touched every aspect of our business."

NBB and the energy lab said they collected biodiesel samples from about 40 producers and suppliers across the country.

Howell would not identify the specific states in which biodiesel samples did not meet specifications.

"In order to secure participation from the companies in the study, we agreed that the sample locations would be anonymous," he said.

"The problematic samples were equally spread out in the country including the Midwest, except Minnesota," Howell said.

Minnesota's law, which requires that all fuel sold in the state contain some soybean-based biodiesel, was suspended for 21 days on Dec. 23 amid reports from truckers of clogged fuel filters. The suspension was later extended until Feb. 10 after the Minnesota Department of Commerce confirmed that the diesel supply had been contaminated with fuel that did not meet state standards (1-23, p. 1).

Siemers said his company "lost close to $10,000 in ruined fuel filters, road calls and mechanic expenses" last year, a total that was likely twice as high "when you consider the cost of business disruption."

Meanwhile, John Hausladen, president of the Minnesota Trucking Association, said his group does not anticipate reports of filter-clogging again this year.

"We are quite confident that we will not have any problems in Minnesota going into this winter because [the state's] manufacturers have addressed biodiesel quality problems," he said.

Although only Minnesota has mandated biodiesel, Bill Joyce, president of the New York State Motor Truck Association, said truckers in the state try to avoid the fuel.

"We haven't had biodiesel mandated yet," Joyce said, "but this will be the first winter it gets any widespread use in New York because our state legislature passed biodiesel tax credits."

Joyce said carriers are "a little wary" of what will happen this winter as biodiesel usage increases, but added that "we'll wait and see."

"Truckers are not going to use biodiesel unless they are forced to by a state mandate, or it becomes so economical they can't afford to do otherwise," he said.

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NEWS

FOR IMMEDIATE RELEASE

Contact: Jenna Higgins/NBB
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Brendan Prebo/ASG Renaissance
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Nov. 8, 2006

National Biodiesel Board Issues Winter Weather Advisory

Fuel Sampling Results Make Conditions Right for Caution

Petroleum Outreach, Fuel Quality Enforcement Program and State-by-State Fuel Quality Index are all part of NBB's Efforts to Enhance Biodiesel Quality

JEFFERSON CITY, Mo.– Fleet managers, petroleum distributors and other consumers should consider a biodiesel "winter weather advisory" in effect for the nation. The National Biodiesel Board (NBB) raised the advisory in response to fuel quality testing results that the trade association shared at an NBB-led industry meeting today.

"Ensuring that consumers have a high level of confidence in the biodiesel they purchase is a top priority for the National Biodiesel Board (NBB) and a key element for the industry's continued growth," said Joe Jobe, NBB CEO. "As the industry ramps up to meet the vast increase in demand for biodiesel, this growth simply cannot occur at the expense of fuel quality."

The biodiesel industry's commitment to fuel quality and consumer confidence is exemplified by a six-fold increase in the number of biodiesel producers completing the BQ-9000 voluntary certification program in a single year. The industry has also asked government agencies to adopt fuel quality standards for biodiesel and enforce them.

A national fuel quality testing project, co-funded by NBB and the National Renewable Energy Laboratory, found that one-third of biodiesel samples pulled between November 2005 and July 2006 were out of spec for incomplete processing. That's the same issue that caused some filter clogging problems in Minnesota last year. Although fuel quality is always important, cold weather can amplify problems caused by out-of-spec fuel.

"NBB views these results as unacceptable," Jobe said. "This underscores the need for enforcement agencies to take action against those who aren't producing biodiesel that meets the existing standard, ASTM D-6751."

As a result of issues in Minnesota last winter, NBB board members in June approved a comprehensive Fuel Quality Policy that directs NBB to work diligently with all state and federal agencies with authority to regulate fuel and enforce quality.

NBB's Fuel Quality Outreach Program has made contact with all state Divisions of Weights and Measures, and encouraged them to adopt ASTM D-6751 into the laws that regulate fuel quality. Currently, half of the states have adopted the ASTM D-6751 specification as part of their fuel quality regulations, and an additional 13 states are planning to adopt the specification or are studying it. Ten states now proactively test biodiesel or biodiesel blends.

That list includes Minnesota, where all diesel fuel contains 2 percent biodiesel.

"All of the samples from the state's biodiesel producers and terminals that we have collected and tested have met specifications," said Mark Buccelli, director, Minnesota Department of Commerce Division of Weights and Measures. "We have set up a monthly schedule to collect samples at the biodiesel producers and terminals. We expect to see good results. Most of the terminals are testing every shipment of biodiesel that comes into their facilities."

In addition, the biodiesel industry, through NBB, has done the following:

- Worked diligently with the Internal Revenue Service, Environmental Protection Agency, and state Weights and Measures bureaus on enforcing fuel quality
- Issued a bulletin to fuel suppliers advising them to take samples of fuel, ensure a certificate of analysis for every batch, and take other precautions
- Developed an online Fuel Quality Enforcement Guide that provides guidance on actions for anyone who has concerns that a company might not be producing spec fuel
- Built strong participation in BQ-9000, the industry's voluntary quality control program

This winter, NBB has the following recommendations for fleet managers and other consumers:

- Work with a reputable supplier who will stand behind the product
- Report out-of-spec biodiesel to the proper authorities, which can be found in the State Fuel Quality Index
- Buy fuel from BQ-9000 accredited producers or certified marketers

The BQ-9000 program, launched in late 2005, requires certified and accredited companies to posses a Quality Manual and Quality Control System and employ best practices in fuel sampling, testing, blending, shipping, storage, and distribution. This helps assure quality from plant gate to consumer tank.

Last year at this time, three companies had BQ-9000 accreditation. Today there are 17 accredited producers and certified marketers, representing more than 40 percent of the biodiesel production capacity on the market. Seven more are expected to be accredited by the end of the year.

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Additional information about biodiesel is available online at http://www.biodiesel.org/.

Powered by Grassroots Enterprise, Inc.

MEMORANDUM

To: ATA State Trucking Association Executives

From: Rich Moskowitz, Assistant General Counsel and Regulatory Counsel

Date: January 19, 2007

Re: Biodiesel -- Member Education

This memorandum provides background information on ATA's existing policy concerning biodiesel, financial considerations associated with biodiesel use, and operational concerns associated with the use of biodiesel.

A. ATA's Biodiesel Policy:

ATA's energy policy is grounded in the belief that there should be one national diesel fuel standard. As such, ATA has vigorously opposed any state-mandated boutique diesel fuels.[1] In October 2005, ATA's Board of Directors approved a policy in support of the voluntary use of high quality biodiesel in blends of up to five percent as a reasonable means to extend the supply of diesel fuel. The policy recognizes that the operational challenges presented by biodiesel (*i.e.*, cold weather performance, reduced fuel economy, and engine warranty issues) are minimized if high quality biodiesel is used in a low percentage blend. The policy also states ATA's preference for a national diesel standard and its opposition to state boutique fuel mandates. The text of the ATA policy is reprinted below:

> *The trucking industry supports a single national diesel fuel standard. The use of biodiesel, in blends of up to 5% (i.e., B5), is an appropriate means to increase the supply of diesel fuel, provided that the biodiesel blend meets the ASTM D975 standard for on-road diesel fuel. The trucking industry supports voluntary research, investigation and demonstration projects that evaluate the feasibility and cost-effectiveness of using alternative fuels in commercial fleet vehicles. The trucking industry does not support state or municipal government mandates to use alternative fuels. . . . . Alternative fuels should not be exempt from the payment of highway taxes or other fees to maintain the network of roads. An equitable taxation program is central to the most-effective use of alternative fuels on our nation's highways. Federal and state tax incentives to encourage the use of alternative fuels, including biodiesel, are appropriate, provided, however, that no such incentives, at either the federal or state level, should be financed out of or reduce funds collected or otherwise designated for transportation funding.*

---

[1] "Boutique fuels" are locally-mandated, unique fuel specifications that result in the inability to transfer fuel from other areas of the country. Boutique fuels generally cost more than fuel that complies with the national standards. Boutique fuels harm the trucking industry by creating an uneven playing field and by preventing petroleum distributors from quickly responding to local shortages of diesel by transferring fuel from neighboring jurisdictions.

B. Economic Considerations:

Neat biodiesel (B100) has a lower energy content than No. 2 diesel, which results in a reduction of approximately seven to nine percent in maximum power output.[2] There is insufficient data on the impact that low percentage blends of biodiesel have upon fuel economy.

Currently, biodiesel is more expensive to produce than petroleum-based diesel. The chart below provides details on the costs of producing and distributing biodiesel:

Biodiesel Production Costs (January 2007):

– Soy Oil Feedstock (7.5 lbs./gal.)	29 cents	$ 2.18
– Methanol (12%-20% by volume)		$ .10 - .20
– Catalyst		$ .10 - .12
– Electricity		$ .01
– Natural Gas (boiler - heat)		$ .08 - .10
– Labor and Overhead		$ .05 - .10
– Maintenance		$ .03 - .05
– Insurance & Tax		$ .03 - .05
– Depreciation		$ .05 - .10
Total Production Costs		$ 2.63 - $ 2.90
Wholesale price of diesel		$ 1.62 (ULSD)

The federal JOBS bill of 2004 added a new tax credit for biodiesel that became effective January 1, 2005. Available to blenders of biodiesel mixtures, the credit is taken against the federal excise tax on fuel in the amount of 1 cent for each percentage point of biodiesel blended into the diesel fuel. The credit may be taken even if the resulting biodiesel blend is used in an application not subject to the federal fuel tax – off-road use, for instance, or use in an exempt vehicle. If a blender's credit exceeds its excise tax liability, the excess may be claimed as an income tax credit. The new credit is not subject to the federal alternative minimum tax and has no effect on the federal Highway Trust Fund.

The existence of these federal subsidies has resulted in biodiesel being competitively priced with petroleum diesel in those parts of the country where biodiesel is produced. The transportation of biodiesel, however, significantly increases its cost, since biodiesel does not move by pipeline and must be transported in tank trucks or rail tank cars.

A review of the October 2006 Clean Cities Alternative Fuel Price Report revealed the following price differentials between a twenty percent biodiesel blend (B20) and petroleum diesel. The prices set forth in the chart below are retail prices that include federal, state and local taxes:

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[2] No. 2 diesel fuel typically contains about 140,000 BTUs per gallon, while biodiesel made from vegetable oil typically contains about 130,000 BTUs per gallon.

AMERICAN TRUCKING ASSOCIATIONS

Location	Diesel Fuel	Biodiesel (B20)	Price Differential
New England	$2.67	$2.55	($0.12)
Lower Atlantic	$2.58	$2.64	$0.06
Midwest	$2.57	$2.41	($0.16)
Gulf Coast	$2.51	$2.60	$0.09
Rocky Mountains	$2.62	$2.71	$0.09
West Coast	$2.74	$2.78	$0.04
National Average	**$2.62**	**$2.66**	**4 cents**

There are also a wide variety of state biodiesel incentives. These incentives change frequently and a complete discussion of these incentives is beyond the scope of this memorandum.

C. Technical Considerations:

Engine Performance – Neat biodiesel and high percentage biodiesel blends can cause a variety of engine performance problems, including filter plugging, injector coking, piston ring sticking and breaking, elastomer seal swelling and hardening/cracking, and severe engine lubricant degradation. Additional testing is needed to determine whether these operational issues are present at low percentage blends used over an extended period of time. According to the Engine Manufacturers Association, biodiesel blends up to a maximum of B5 should not cause engine or fuel system problems, provided the biodiesel used in the blend meets the requirements of ASTM D 6751. EMA recommends that the conditions of seals, hoses, gaskets, and wire coatings should be monitored regularly when biodiesel fuels are used. Older trucks (pre-1994) may require upgraded components to ensure trouble-free operation.

Warranties – Individual engine manufacturers determine what implications, if any, the use of biodiesel fuel has on the manufacturers' commercial warranties. Engine manufacturers warrant their engines for "materials and workmanship." An engine company will cover a fault with an engine part or with engine operation within the prescribed warranty period, if the fault is due to an error in manufacturing or assembly. Typically, an engine company will define what fuel the engine was designed for and will recommend the use of that fuel to their customers in their owners' manuals. Engine companies do not, however, warranty fuel. Engine problems arising directly from fuel use (and not a fault in materials and workmanship) are the responsibility of the fuel supplier and not the engine manufacturer. According to the Engine Manufacturer's Association (EMA), biodiesel blends up to a maximum of 5% by volume (B5) should not cause engine or fuel system problems, provided the B100 used in the blend meets the requirements of ASTM D 6751. If blends exceeding B5 are desired, vehicle owners and operators should consult their engine manufacturer regarding the implications of using such fuel.

Solvent Properties – Biodiesel acts as a solvent, which can remove deposits from fuel tanks and cause filter plugging. As a result, more frequent fuel filter changes are anticipated, which will increase maintenance costs. Switching between No. 2 diesel and biodiesel blends may cause a fuel filter to become clogged. Additional research is needed to determine whether low percentage blends of biodiesel will act as a solvent and necessitate unexpected fuel filter changes.

AMERICAN TRUCKING ASSOCIATIONS

Cold Weather Performance – Gasolines have freezing points well below even the most severe winter conditions. Petroleum diesel fuels, however, have both pour points and cloud points (the temperature at which a cloud or haze of wax crystals first appears and separates from the fuel) well within the range of cold temperatures at which they might be used. Biodiesel has the same issues, but at even higher temperatures. The cloud point for biodiesel will vary based on the type of feedstock used. Whereas No. 2 diesel typically gels at 16°F, soy-based biodiesel gels at 32°F, and biodiesel derived from animal fat gels at 68°F. Users of a 20 percent biodiesel blend (B20) will experience a decrease in cold flow performance (cold filter plugging point, cloud point, pour point) of approximately 3°F to 5°F. Anti-gelling products, heating systems for fuel tanks and blending with No. 1 diesel fuel have been used to prevent gelling, but each of these options adds to operating costs.

Lubricity – In 2006, the United States began a transition to ultra low sulfur diesel (ULSD). To meet the new 15 ppm sulfur specification of ULSD, refiners have employed a severe hydrotreating process. The end result is a cleaner fuel, but also one that is poor in lubricity. To compensate for this loss of lubricity, petroleum distributors use a lubricity additive to prevent premature failure of the diesel fuel injection system. The diesel fuel injection system of a modern diesel engine requires better lubrication due to higher operating pressures. The addition of small quantities of biodiesel with number one and number two diesel fuel significantly improves the lubricity of the diesel fuel. Blending as little as two percent biodiesel with petroleum diesel fuel increases the lubricity to an acceptable level for the new ultra low sulfur (15 ppm) number two diesel fuel. Although biodiesel may be an acceptable lubricity additive, it must be noted that there are existing lubricity additives that are significantly less expensive than biodiesel.

Microbial Growth – Biodiesel is an excellent medium for microbial growth, which could increase fuel system corrosion and cause premature filter plugging. Because water accelerates microbial growth and is naturally more prevalent in biodiesel fuels than in petroleum-based diesel fuels, care must be taken to remove water from fuel tanks. Anti-microbial additives may be used to address this issue.

D. Environmental Considerations:

Pure biodiesel fuels have been tested and found to be nontoxic in animal studies. Emissions from engines using biodiesel fuel have undergone health effects testing in accordance with EPA Tier II requirements for fuel and fuel additive registration. These test results indicate no biologically significant short term effects on the animals studied other than minor effects on lung tissue at high exposure levels.

Evidence exists that certain blends of biodiesel can significantly lower particulate matter, hydrocarbon and carbon monoxide emissions; studies also show that biodiesel use results in a slight increase in nitrogen oxide emissions. Unless blended at high levels, however, biodiesel does not have a significant impact on engine emissions.