



# MOORE INFORMATION

OPINION RESEARCH • STRATEGIC ANALYSIS

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The following provides an overview from the five surveys conducted on behalf of the National Biodiesel Board. The five survey projects include: U.S. consumers (December 15-16, 2005, 1,067 interviews), trucking company executives (January 3-4, 2006, 30 interviews), truck stop operators (January 3-4, 2006, 20 interviews), environmental organization leaders (January 4-6, 2006, 50 interviews), and health organization leaders (January 3-10, 2006, 50 interviews).

## ***Awareness and Perceptions of Biodiesel***

Of the five audiences surveyed about biodiesel: U.S. consumers, trucking company executives, truck stop operators, health organization leaders and environmental organization leaders, the most likely to be familiar with biodiesel are environmental organization leaders, as reflected in the following table:

### **Familiarity with Biodiesel: All Survey Groups**

	Env. Ldrs	Health Ldrs	Trucking Executives	TSOs	U.S. Consumers
	%	%	%	%	%
Very/fairly or somewhat familiar	<b>68</b>	28	34	40	17
Not very or not too	20	20	20	25	13
TOTAL familiar	<b>88</b>	48	53	65	30
Not familiar at all	12	52	47	35	11
Never heard of (consumers only)	--	--	--	--	59

Further, there has been an increase in familiarity with biodiesel among all five audiences since the first surveys conducted with these groups in June, 2004.

Respondents who said they were familiar with biodiesel were asked what they had heard about it. In general, consumers, environmental leaders, trucking executives and truck stop operators were more likely to offer descriptions of the product contents or source, while health organization leaders mentioned both the product contents and its environmental/health benefits (or lack thereof) most often. The following table compares leading descriptions from each group:

## “What Specifically Do You Know About Biodiesel?”

	Env. Leaders (N=44) %	Health Leaders (N=24) %	Trucking Executives (N=16) %	TSOs (N=13) %	U.S. Consumers (N=441) %
Fuel/auto fuel from vegetable/corn oil	0	0	0	0	<b>20</b>
Made from ag products/plants	11	8	6	15	12
Better for environment/cleaner burning	5	4	0	8	7
Mixed with/contains soybeans	11	8	<b>19</b>	<b>31</b>	5
Blend of diesel and oil/cooking oil	16	0	6	0	3
Not petroleum-based	16	0	0	0	2
Contributes to air pollution	0	8	0	0	0

Among respondents who are familiar with biodiesel, a majority from three of the four survey groups asked this question (environmental, health and trucking executives) say they have a positive impression of the fuel. Specifically, 77% of environmental leaders, 62% of health leaders, and 56% of trucking executives are positive about biodiesel, based on what they know today. At the same time, however, among the 13 truck stop operators who answered this question, 38% were positive, while 54% had no opinion. Fewer than 13% have a negative impression of the fuel, confirming an opportunity for future education efforts among these groups.

Among the health and environmental leaders with a positive impression of biodiesel (N=15 and N=34 respectively), their impressions are based on perceptions that biodiesel contributes to “air quality/cleaner emissions/cleaner burning,” is better for the environment and is a renewable resource. Among the nine trucking executives and five truck stop operators, there was no consensus among the reasons for a positive reaction to biodiesel.

So few respondents, in any of the four surveys, had a negative view of biodiesel, that reasons for their perceptions are mostly anecdotal in nature, rather than statistically significant. Among the reasons for negative perceptions are “cost,” “clogging fuel filters” and “respiratory problems.”

### ***Position on Biodiesel***

Among health and environmental organization leaders familiar with biodiesel, very few say their organization has taken a position on the product: 32% of environmental leaders say their organization supports biodiesel (14 respondents), while 17% of health organizations say the same (4 respondents). The majority of both groups have no position on biodiesel today (64% environmental organizations, 83% health organizations), representing a significant education and outreach opportunity for the National Biodiesel Board. In the 2004 surveys among these two groups, 22% of environmental leaders who were familiar with biodiesel said their organization supported it, and 4% of health organizations familiar with the fuel supported it.

Among health and environmental leaders that oppose, have no position or aren't sure about their organization's position on biodiesel (N=20 health leaders, N=30 environmental leaders), the leading reasons for their view are “haven't gotten around to it,” or it is “not an issue they deal with.” Health organizations also mentioned a “lack of information” as a reason for not currently supporting use of biodiesel.

### ***Perceptions of Statements About Biodiesel***

All five survey groups were asked whether they considered a series of statements about biodiesel true or untrue. These questions were only asked among respondents who said they were familiar with biodiesel. Of the statements tested, the most comparable are from the environmental and health surveys, where seven statements can be directly compared. Environmental leaders were more likely than health leaders to find four of the seven statements true (health leaders were more likely to be undecided about these four statements), while health leaders were more likely than environmental leaders to find the statement about the reduction of life cycle carbon dioxide emissions true. The remaining two statements were considered equally true by both groups, statistically speaking. As noted in the individual reports on this subject, while some of these statements are considered true by a majority of respondents, there clearly exists a significant education opportunity about biodiesel's benefits among all the groups surveyed.

The following tables summarize these findings:

#### **Perceived Accuracy of Statements About Biodiesel (Among Respondents Familiar with Biodiesel)**

##### ***Environmental and Health Leaders***

	True %	Untrue %	Don't know %
<i>Biodiesel can be used in existing fueling stations and engines, and future clean diesel engines, with few or no modifications</i>			
Environmental Leaders	<b>80</b>	5	16
Health Leaders	42	8	50
<i>The use of biodiesel results in substantially less particulate emissions that can cause asthma and lung problems in children and the elderly</i>			
Environmental Leaders	57	2	41
Health Leaders	<b>62</b>	--	38
<i>The use of biodiesel results in substantially less ozone-forming, unburned hydrocarbons</i>			
Environmental Leaders	<b>66</b>	5	30
Health Leaders	54	4	42
<i>Biodiesel is biodegradable, nontoxic and free of sulfur</i>			
Environmental Leaders	<b>68</b>	11	20
Health Leaders	50	0	50
<i>The use of biodiesel results in less carbon monoxide emissions</i>			
Environmental Leaders	45	5	50

Health Leaders	46	0	54
<i>Biodiesel is a good alternative to clean natural gas</i>			
Environmental Leaders	<b>50</b>	7	43
Health Leaders	50	0	50
<i>Pure biodiesel reduces life-cycle carbon dioxide emissions by 78 percent compared to petroleum diesel</i>			
Environmental Leaders	32	5	64
Health Leaders	21	0	79

(More)

### **Trucking Executives and Truck Stop Operators**

	True %	Untrue %	Don't know %
<i>The actual net cost of biodiesel blends is not significantly higher than regular diesel due to federal tax incentives</i>			
Trucking Executives	25	6	69
Truck Stop Operators	<b>85</b>	0	15
<i>Use of biodiesel does not require major engine modifications</i>			
Trucking Executives	<b>69</b>	6	25
Truck Stop Operators	62	8	31
<i>Biodiesel blends offer similar fuel consumption, horsepower, torque and haulage rates as conventional diesel fuel</i>			
Trucking Executives	<b>63</b>	0	38
Truck Stop Operators	31	15	54
<i>Biodiesel provides better lubricity than regular diesel fuel</i>			
Trucking Executives	25	6	69
Truck Stop Operators	38	8	54
<i>Biodiesel is less expensive than other alternative fuel systems</i>			
Trucking Executives	25	38	38
Truck Stop Operators	46	0	54
<i>Biodiesel has a higher cetane number than regular diesel fuel</i>			
Trucking Executives	19	6	75
Truck Stop Operators	23	15	62
<i>As an additive, even as low as 1% or 2%, biodiesel provides needed lubricity for ultra low sulfur diesel that will be required by law in 2006</i>			
Trucking Executives	19	0	81
Truck Stop Operators	23	15	62
<i>Biodiesel is available for purchase throughout the United States</i>			
Trucking Executives	13	50	38
Truck Stop Operators	23	38	38

Trucking Executives (N=16) and Truck Stop Operators (N=13) were read the brief background description of biodiesel,

*Biodiesel is the name of a clean burning alternative fuel, produced from domestic, renewable resources, like soybean oil. Biodiesel contains no petroleum, but it can be blended at any level with petroleum diesel to create a biodiesel blend, usually a 20 percent blend, or B20. It can be used in diesel engines with few or no modifications. Biodiesel is simple to use, biodegradable, nontoxic, and essentially free of sulfur.*

Then they were read a series of statements and asked whether they would be more likely or less likely to consider using biodiesel after hearing each. Responses to the top five messages are summarized in the following table:

### Reactions to Benefits of Biodiesel

	More likely %
<i>Biodiesel will increase engine life through increased lubricity</i>	
Trucking Executives	<b>93</b>
Truck Stop Operators	85
<i>Biodiesel can be distributed through existing diesel fuel pumps</i>	
Trucking Executives	83
Truck Stop Operators	<b>90</b>
<i>Biodiesel reduces emissions and exhaust fumes, making fueling and loading areas less toxic for drivers and other workers</i>	
Trucking Executives	<b>90</b>
Truck Stop Operators	80
<i>The soybean oil used to produce biodiesel is grown here in the United States. Greater use of biodiesel would create a bigger demand for soybeans, contributing to the farm economy</i>	
Trucking Executives	87
Truck Stop Operators	<b>90</b>
<i>Biodiesel is manufactured in the U.S. and will reduce our dependence on foreign oil, which is our largest component of our national trade deficit</i>	
Trucking Executives	87
Truck Stop Operators	85

Consumers (N=1,067) were asked to rank the importance of four benefits of biodiesel, from one to four where one was most important and four was least important. Making “us less dependent on foreign oil” was ranked most important (1) for 32% of respondents followed by health benefits (26%), and for 21% of respondents, economic benefits or environmental factors were most important.

### **Importance Ranking of Biodiesel Benefits**

	Most important (1) %
<i>Biodiesel is good for the economy because it creates markets for U.S. farm products and provides U.S. manufacturing and distribution jobs</i>	21
<i>Biodiesel is better for the environment because it reduces emissions including carbon dioxide, it is a renewable resource, and it is biodegradable</i>	21
<i>Biodiesel is better for our health, because it reduces air toxins and cancer causing emissions by as much as 90% over regular diesel fuel and results in cleaner air</i>	26
<i>Biodiesel will make us less dependent on foreign oil</i>	32

#### **Federal Tax Incentives**

A majority of respondents in all four survey groups say they support federal tax incentives to encourage the use of biodiesel in the U.S. Most likely to support this tax incentive are truck stop operators (90% support, 5% oppose), followed by consumers (82% support, 18% oppose), environmental group leaders (74% support, 10% oppose), trucking executives (73% support 20% oppose) and health organization leaders (64% support, 18% oppose).

#### **Biodiesel Pricing Issues**

Among U.S. consumers, (N=1,067) we found most would be willing to pay more for biodiesel if it could be used in their vehicle and it provided the benefits described in the survey. Fully 56% of consumers would be will to pay from one to 26 cents or more per gallon. The results for how much more are as follows:

1-4 cents more per gallon	24%
5-10 cents more per gallon	19%
11-15 cents more per gallon	5%
16-20 cents more per gallon	2%
21-25 cents more per gallon	2%
26 cents or more per gallon	3%
Would not pay any more for biodiesel	44%

### ***Conclusions***

Since the baseline study conducted among these audiences in 2004, much has happened in the world of biodiesel and alternative fuel sources. Importantly, awareness of the product has increased among all five audiences. However, there is still much opportunity to “get the word out” about biodiesel, its benefits, uses and capabilities. The data in these surveys continue to suggest that the climate for biodiesel will continue to improve as these audiences are given more information about the environmental, health and numerous product benefits of biodiesel. Receptivity to Biodiesel as a long-term fuel source or transitional fuel has improved, and will likely continue to do so among these various target audiences. Clearly, there is a market for the product among consumers and trucking companies: though both groups need to learn more about the product’s benefits that appeal to each, as well as be informed of its availability and affordability. At the same time, health and environmental organization leaders continue to be poised to support biodiesel, based on more information about its numerous health and environmental benefits, but each of these groups would also benefit from continued communications efforts about the product’s features and benefits.