



Report to the Legislature

Annual Report on Biodiesel

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Pursuant to Minn. Stat. 3.197, the cost of preparing this report was approximately \$1,000.

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Executive Summary

In 2005, Minnesota became the first state to implement legislation mandating the use of biodiesel by blending biodiesel into its fuel supply at a level of 2 percent—commonly referred to as B2. According to subsequent legislation (Minn. Stat. 239.77, subd. 2), all diesel sold or offered for sale in Minnesota must contain 5 percent biodiesel (B5) as of May 2009, increasing to 10 percent (B10) in 2012 and 20 percent (B20) in 2015.^{1,2} The move to B10 was delayed by a letter from the commissioners of agriculture, commerce and the pollution control agency dated November 3, 2011. Over the past two years, the conditions that were sighted for the delay of B10 have been addressed. Notice was published on September 30, 2013, giving the 270 day notice that the state would move to B10 on July 1, 2014. For 2014 the mandate would be in effect from July 1 through October 31, reverting to B5 on November 1. In 2015 the higher volume mandate would begin on April 1 and be in effect through the end of October.

The Biodiesel Task Force was formed in 2003—comprised of appointees from industry, academia, and various associations—to advise the Commissioner of Agriculture on implementing the state’s biodiesel blend requirement and building the state’s biodiesel production capacity. Since then, the Task Force has helped promote the industry and educate biodiesel developers, marketers, consumers and manufacturers about biodiesel and related issues in Minnesota.

Experience and testing demonstrate that biodiesel blends can perform well in cold weather. During the first winter following implementation of B5 in May 2009, some diesel fuel users in Minnesota reported problems potentially associated with the use of higher blends of biodiesel. In January 2010 the Minnesota Department of Commerce issued a temporary waiver for the B5 requirement in #1 diesel in response to concerns about the potential for clogged filters in extreme cold weather. Currently the waiver on blending biodiesel with #1 diesel in the months of October through March has been extended in statute through May 1, 2015. In spite of sub-zero temperatures over the past two winters and up to the present day, no issues with the state’s B5 mandate over winter months has been reported.

Significant progress has been and continues to be made since the original biodiesel mandate took effect in 2005 that provides industry specifications that establish and improve quality guidelines for biodiesel, biodiesel blends, and diesel fuel oil.

¹ By law, the 10 and 20 percent minimum content levels would be effective from April 1st through October 31st only. According to MS 239.77, subd. 2a, “The minimum content for the remainder of the year is five percent. However, if the commissioners of agriculture, commerce, and pollution control determine, after consultation with the biodiesel task force and other technical experts, that an American Society for Testing and Materials (ASTM) specification or equivalent federal standard exists for the specified biodiesel blend level in those clauses that adequately addresses technical issues associated with Minnesota’s cold weather and publish a notice in the State Register to that effect, the commissioners may allow the specified biodiesel blend level in those clauses to be effective year-round.”

² According to MS 239.77, subd. 2b, the 10 and 20 percent minimum content levels “become effective on the date specified only if the commissioners of agriculture, commerce, and pollution control publish notice in the State Register and provide written notice to the chairs of the House of Representatives and Senate committees with jurisdiction over agriculture, commerce, and transportation policy and finance, at least 270 days prior to the date of each scheduled increase, that certain conditions have been met (e.g., ASTM specifications exists, adequate supply is available, etc.) and the state is prepared to move to the next scheduled minimum content level.”

The price of biodiesel fuel has continued to grow faster than diesel fuel prices.³ The price difference to consumers for biodiesel blends over the past year has generally been lower for B5 and higher blends due to extension of the federal blenders credit and Renewable Identification Numbers (RIN) values: for example, wholesale prices at MSP terminals showed a gallon of B5 averaging in 2013 just over 4 cents more than a gallon of diesel, while last year B5 averaged just under 3 cents more a gallon. The federal biodiesel blender's tax credit of \$1.00 per gallon was reinstated when legislation was passed January 3, 2013, retroactively covering 2012 and also extending the credit through 2013.

The value of a RIN for a gallon of biodiesel, a feature of the EPA's Renewable Fuels Standard program (RFS2), was equal to or greater than the difference between the producer price for biodiesel (B100) and the rack price of #2 diesel for the entire year of 2013. As this mechanism settles into the marketplace, it has supplemented the federal tax credit, depending on the point of sale (third party vendor benefits) and the price received for the RIN. This mechanism can also reduce the cost of biodiesel blends to the consumer, and has in many places.

The supply of biodiesel fuel to Minnesota terminals has been constant. No B5 outages occurred at terminals because biodiesel fuel was not available, but rather because of maintenance to equipment. A year-round blending facility was constructed and opened by Harms Oil in Sioux Falls, SD, across the street from the Magellan terminal in late 2012. This site supplies winter biodiesel blended for southwestern Minnesota.

Minnesota's B2 and B5 mandates have provided an important incentive leading to the establishment of the state's biodiesel production capacity of 63 million gallons. The state's existing capacity can provide more than the biodiesel necessary for B5, 95% for a typical year of B10, and 55 percent required for future statewide B20 requirements⁴.

Feedstocks for biodiesel production at Minnesota plants are generally determined by the price and availability of the oil or fat used in the process. Given the large soybean oil crushing capacity in Minnesota, much of the soy oil used in Minnesota biodiesel plants is likely to be sourced from Minnesota oil producers. However, soybean oil prices have been at high levels since late 2010 (despite a small fall off the past three years), which has reduced profitability. Given this, companies like Renewable Energy Group (REG), owner of the Glenville plant, invested \$20 million in a retrofit designed to allow the plant to use lower cost feedstock such as corn oil from the corn ethanol process, waste vegetable oil, along with animal and poultry fats.

³ For 2006-2009, the end of 2010 and 2011 the price of biodiesel is the rack (wholesale) price after the \$1.00 federal tax credit. For almost all of 2010 (where the credit was reinstated in December) the prices reflect wholesale prices without the tax credit. For all of 2012 (where the tax credit was reinstated retroactively for the entire year on January 3, 2013), prices are will be listed twice to reflect wholesale prices without and with the tax credit.

⁴ These estimates assume 840 million gallons of diesel usage in the state, which is based on usage totals for sectors without exception to biodiesel use provided by the U.S. Energy Information Agency.

Introduction

This report is submitted pursuant to Minn. Stat. 239.77, subd. 5:

Beginning in 2009, the commissioner of agriculture must report by January 15 of each year to the chairs and ranking minority members of the legislative committees and divisions with jurisdiction over agriculture policy and finance regarding the implementation of the minimum content requirements in subdivision 2, including information about the price and supply of biodiesel fuel. The report shall include information about the impacts of the biodiesel mandate on the development of biodiesel production capacity in the state, and on the use of feedstock grown or raised in the state for biodiesel production. The report must include any written comments received from members of the biodiesel fuel task force by January 1 of that year designated by them for inclusion in the report.

Background

The Biodiesel Task Force was created by the Legislature in March 2003 to help the state carry out its biodiesel mandate. Since then, the Task Force has met on an ad-hoc basis to discuss issues related to biodiesel production and its use. Sub-teams have been formed to address more specific issues such as cold weather operability.

The Biodiesel Task Force members are appointed by the Commissioner of Agriculture. Current membership includes:

- Ronald Marr, Minnesota Soybean Processors (Chairperson)
- Gary Wertish, Minnesota Farmers Union
- Kevin Paap, Minnesota Farm Bureau
- Dustin Haaland, CHS Inc.
- Scott Hedderich, REG Company
- Kevin Thoma, Minnesota Petroleum Marketers Association
- Kelly Marczak, American Lung Association of Minnesota
- Steve Rupp, Ever Cat Fuels
- Ralph Groschen, At large member
- Darrick Zarling, University of Minnesota Center for Diesel Research
- Doug Root, AURI
- Brett Webb, Flint Hills Resources, LP
- John Hausladen, Minnesota Trucking Association
- Chris Hill, Minnesota Soybean Growers Association
- Bruce Heine, Magellan Midstream Partners, LP

Implementation of Minnesota's Biodiesel Requirements

B10 Implementation

The commissioners of agriculture, pollution control and commerce met November 26, 2012, to discuss the delay in implementing the move to B10. Their primary task for this meeting was to re-evaluate Minnesota's ability to move to B10, and specifically look at the obstacles that required the delay from the May 1, 2012, implementation date set in Minn. Stat. 239.77, Subd. 2(a)(3). The reasons that had been cited in announcing the delay from the commissioners' letter of November 3, 2011, were:

- Regulatory protocol: The Minnesota Department of Commerce, Weights and Measures Division is the enforcement agent for the state's biodiesel content mandate. Weights and Measures audits and samples biodiesel stored at bulk delivery facilities or sold at retail outlets in the state to ensure adequate biodiesel blends are offered. The division's investigators inspect retail outlets on a regular schedule. The length of the interval between inspections might allow for an opportunity for undetected violations of the content mandate. Also, Weights and Measures does not have the authority to audit or inspect at farms or fleet facilities to determine if Minnesota bulk facilities are delivering mandate-compliant fuel.
- Amount of blending infrastructure: The majority of the state is equipped with adequate biodiesel blending infrastructure. The southwestern portion of the state historically has experienced some problems with access to mandate-compliant fuel, leading to supply issues.

The Minnesota Biodiesel Task Force met July 17, 2013, to discuss the four statutory conditions in M.S. 239.77. The Task Force affirmed the progress that had occurred since the commissioner's letter of November, 2011. Harms Oil Company of Sioux Falls, South Dakota's biodiesel blending facility was deemed to be sufficient for addressing the southwest Minnesota blending supply issue. HF634, which was passed by the legislature and became 2013 Laws of Minnesota, Chapter 68, addressed the Minnesota Department of Commerce's regulatory concerns by requiring a delivery ticket for a biodiesel blend to state the volume percent of biodiesel content throughout the ticketing process.⁵

The commissioners of agriculture, commerce and the pollution control agency met the following day and determined that the conditions had been met. Notice was posted in the Minnesota State Register on September 30, 2013, stating that the B10 mandate would take effect on July 1, 2014.

Waiver of B5 Blending with #1 Diesel during Cold Weather Months

During the first winter following B5 implementation, some diesel fuel users in Minnesota reported problems potentially associated with the use of higher biodiesel blends in extreme cold weather. In January 2010, the Minnesota Department of Commerce issued a temporary waiver for the B5 requirement in #1 diesel, requiring no blending of biodiesel with #1 diesel in the winter months of October, November, December, January, February and March. The waiver was continued and remained in effect through March 2012. During the legislative session of 2012, language was added to Minn. Stat. 239.77, Subd. 3(c) that extends a waiver of blending biodiesel with #1 diesel in the winter months (October 1 through March 31), with a current expiration of May 1, 2015.

The Minnesota Biodiesel Task Force Cold Weather Team did not meet in 2013. In recent years the Cold Weather Team has begun the discussion of the use of a #1 biodiesel blend that is now defined under the American Society of Testing and Materials (ASTM) D6751. Minnesota testing on ASTM 6751 grade 1

⁵ 2013 Laws of Minnesota, Chapter 68

biodiesel is scheduled to begin this winter supervised by MEG Corporation of Plymouth, Minnesota. The Cold Issues Team was created in 2008 to provide essential guidance to the state on technical issues related to the production, handling and use of biodiesel in cold weather conditions.

Number 1 biodiesel is a formulation with a lower cloud point and cold soak filtration value. Cloud point is a temperature where diesel starts to crystalize. Cold soak filtration value is a test that determines how well the fuel goes through a filter of a given size.

Common practice is to field test a new ASTM specification for a couple years after its passage. This would mean the winters of 2013-14 and 2014-2015 would likely be test seasons for a #1 biodiesel grade.

Department of Commerce Pricing Report

A report regarding wholesale pricing of diesel fuel and blends from the commissioner of commerce, in collaboration with the commissioner of agriculture, was issued in February, 2012.⁶ The report looked at prices at various terminals both in and out of the state to see what effect the biodiesel blends have on the overall price of diesel fuel. Information from this report sent to the Governor who may, after consultation with the commissioners of commerce and agriculture, adjust the mandate, should a price disparity appear to be causing economic hardship to retailers of diesel in Minnesota. The report found it could not be determined whether economic hardship existed for diesel retailers in the state based upon the data available. Since the mandate in place at the time was B5, such a determination would have had no consequence, as the statute specifies that the blending requirement will not fall below 5% in any event. If the mandate would be greater than 5%, any adjustment made would be no lower than 5% biodiesel content and for a specified period of time.

Analysis of the RIN value effect on pricing, as well as an example of a test retail pricing report, is included toward the end of this document in the “Biodiesel Pricing” section.

ASTM Specifications

ASTM is the premier international industry association that designates quality specifications for a wide variety of industrial products including fuels and lubricants. Updates in 2008 to the existing ASTM “Standard Specification for Diesel Fuel Oils D975” incorporated biodiesel blends up to 5 percent. The specification D975-09 was not adopted at the time into Minnesota Statutes because of objections from some members of the petroleum industry who believed that adding 5 percent biodiesel into #1 diesel fuel would not allow that fuel to meet required distillation properties.

This past spring, the Minnesota Legislature adopted the use of D975-12a. This specification of the standard does include up to 5% biodiesel with D975 being the general diesel specification for ASTM. The state waiver for biodiesel blending in #1 fuel still addresses the concern for blending biodiesel into #1 diesel in Minnesota into 2015. Subsequent changes and additions have been made to D975 since last spring. The current version is D975-13.

⁶ According to MS 239.77, subd. 2(e) “By February 1, 2012, and periodically thereafter, the commissioner of commerce shall determine the wholesale diesel price at various pipeline and refinery terminals in the region, and the biodiesel price determined after credits and incentives are subtracted at biodiesel plants in the region. The commissioner shall report wholesale price differences to the governor who, after consultation with the commissioners of commerce and agriculture, may by executive order adjust the biodiesel mandate if a price disparity reported by the commissioner will cause economic hardship to retailers of diesel fuel in this state. Any adjustment must be for a specified period of time, after which the percentage of biodiesel fuel to be blended into diesel fuel returns to the amount required in subdivision 2. The biodiesel mandate must not be adjusted to less than five percent.”

In 2012, the latest version of the biodiesel specification, D6751 – “Standard Specification for Biodiesel Fuel Blend Stocks for Middle Distillate Fuels,” was accepted. This standard now specifies four grades of biodiesel, which includes the #1 specification for cold temperature blending:

- Grade 1-B S15-A: special purpose biodiesel blendstock intended for middle distillate fuel applications requiring good low temperature operability and requiring a fuel blend component with 15 parts per million (ppm) sulfur maximum.
- Grade 1-B S500-A: special purpose biodiesel blendstock intended for middle distillate fuel applications requiring good low temperature operability and requiring a fuel blend component with 500 ppm sulfur maximum.
- Grade 2-B S15-A: general purpose biodiesel blendstock for middle distillate fuel applications that require a fuel blend component of 15 ppm maximum.
- Grade 2-B S500-A: general purpose biodiesel blendstock for middle distillate fuel applications that require a fuel blend component of 500 ppm maximum.

Currently, the use of the new #1 grade biodiesel is entirely voluntary. Various refiners and terminals have their own standards for delivery of biodiesel and other products into their systems and these may actually be more stringent than the voluntary number 1 grade biodiesel ASTM specifications. In fact, biodiesel requirements among some Minnesota terminals and refiners have been more stringent than ASTM D6751 before 2012, but not all have adopted these strict requirements.

ASTM D6751 was first amended in 2008 to include the cold flow filtration test into the recommended test parameters to address cold flow issues. In addition, the federal government established a penalty for trading biodiesel that fails cold flow filtration test that would have been sold, transported or used after September 1, 2009.

The ASTM “Standard Specification for Diesel Fuel Oil, Biodiesel Blend (B6 to B20)” was approved in 2008 as D7467. The standard establishes specifications for biodiesel blends including B10 and B20, which are proposed for general usage in Minnesota in the years 2012 (now July 1, 2014) and 2015, respectively. The standard was updated this past year. The current version is D7467-13.

Biodiesel Prices

Rack Pricing

The following section addresses only diesel and biodiesel pricing based on rack pricing reports. This section does not take into consideration the extra value available to the non-obligated party blender (also referred to a 3rd party blender) who is able to separate and sell the RINs into the market available due to a demand from RFS2 obligated parties that do not blend their own biodiesel and/or advanced biofuel.

Diesel prices at terminals statewide and across Minnesota’s border—to the south (Omaha, Nebraska) and west (Denver, Colorado)—have shown remarkably close pricing historically. Figure 1 compares average yearly prices for ultralow sulfur diesel over the past five year period. Ranges include \$1.7268 – \$1.7660 (low at Omaha, NE – high at Fargo, ND), difference of \$0.0391 for 2009; \$2.2513 – \$2.3087 (low at Omaha, NE – high at Superior, WI, difference of \$0.0574 for 2010; \$3.0991 - \$3.1755 (low at Omaha, NE – high at Superior, WI), difference of \$0.0764 for 2011; \$3.1711-\$3.2095 (low at Omaha, NE – high at Superior, WI), difference of \$0.0405 for 2012; and \$3.1069-\$3.1617 (low at Omaha, NE – high at Duluth, MN), difference of \$0.0548 for 2013.

Prices for B100 at the rack vary more than diesel prices, with average monthly prices for regularly reporting regions varying as much as 21 cents in 2009 (Rochester’s low to Mankato’s high), 50 cents in 2010 (Marshall’s low to Denver’s high), 25 cents in 2011 (Marshall’s low to Grand Fork’s high), 35 cents in 2012 (Marshall’s low to Denver’s high), and 55 cents in 2013 (Rochester’s low to Denver’s

high). The cities of Omaha, Sioux Falls, South Dakota, and Superior, Wisconsin, do not provide pricing for B100. Figures 2 and 3 compare average yearly prices for B100 for the reporting regions.

Figure 1. Diesel pricing by city (average of terminals reporting), 2009-2013 (table).

City/Region, State	2009	2010	2011	2012	2013
Alexandria, MN	1.7600	2.2860	3.1357	3.1954	3.1503
Denver, CO	1.7377	2.2975	3.1170	3.1985	3.1201
Duluth, MN	1.7532	2.3006	3.1639	3.2095	3.1617
Fargo, ND	1.7660	2.2941	3.1459	3.2117	3.1614
Grand Forks, ND	1.7628	2.2899	3.1424	3.2086	3.1591
Mankato, MN	1.7515	2.2740	3.1190	3.1843	3.1437
Marshall, MN	1.7538	2.2811	3.1223	3.1874	3.1407
Omaha, NE	1.7268	2.2513	3.0991	3.1711	3.1069
Rochester, MN	1.7437	2.2714	3.1198	3.1795	3.1388
Sioux Falls, SD	1.7375	2.2617	3.1084	3.1776	3.1204
Superior, WI	1.7616	2.3087	3.1755	3.2040	3.1565
Minneapolis-St. Paul, MN	1.7456	2.2741	3.1236	3.1832	3.1298

Figure 2. B100 pricing by city (average of terminals reporting), 2009-2013 (table).

City/Region, State	2009	2010	2011	2012	2013
Alexandria, MN	3.2834*	4.6725*	5.7960	5.6217	5.1621
Denver, CO	3.4409*	4.1464	5.9249*	5.8060	5.5912
Duluth, MN	3.7471*	3.7842	5.7123	5.5683	5.1705
Fargo, ND	3.3285	3.8114	5.8174	5.6789	5.3018
Grand Forks, ND	3.3600*	3.8587	5.8907	5.7536	5.4248
Mankato, MN	3.4683	3.6852	5.6818	5.5131	5.0634
Marshall, MN	3.2352*	3.6536	5.6378	5.4524	5.0411
Omaha, NE	No B100 data available				
Rochester, MN	3.2544	3.7133	5.6940	5.5321	5.0858
Sioux Falls, SD	No B100 data available				
Superior, WI	No B100 data available				
Minneapolis-St. Paul, MN	3.2592	3.7193	5.7100	5.5442	5.1501

*-missing prices (shaded cells) for:

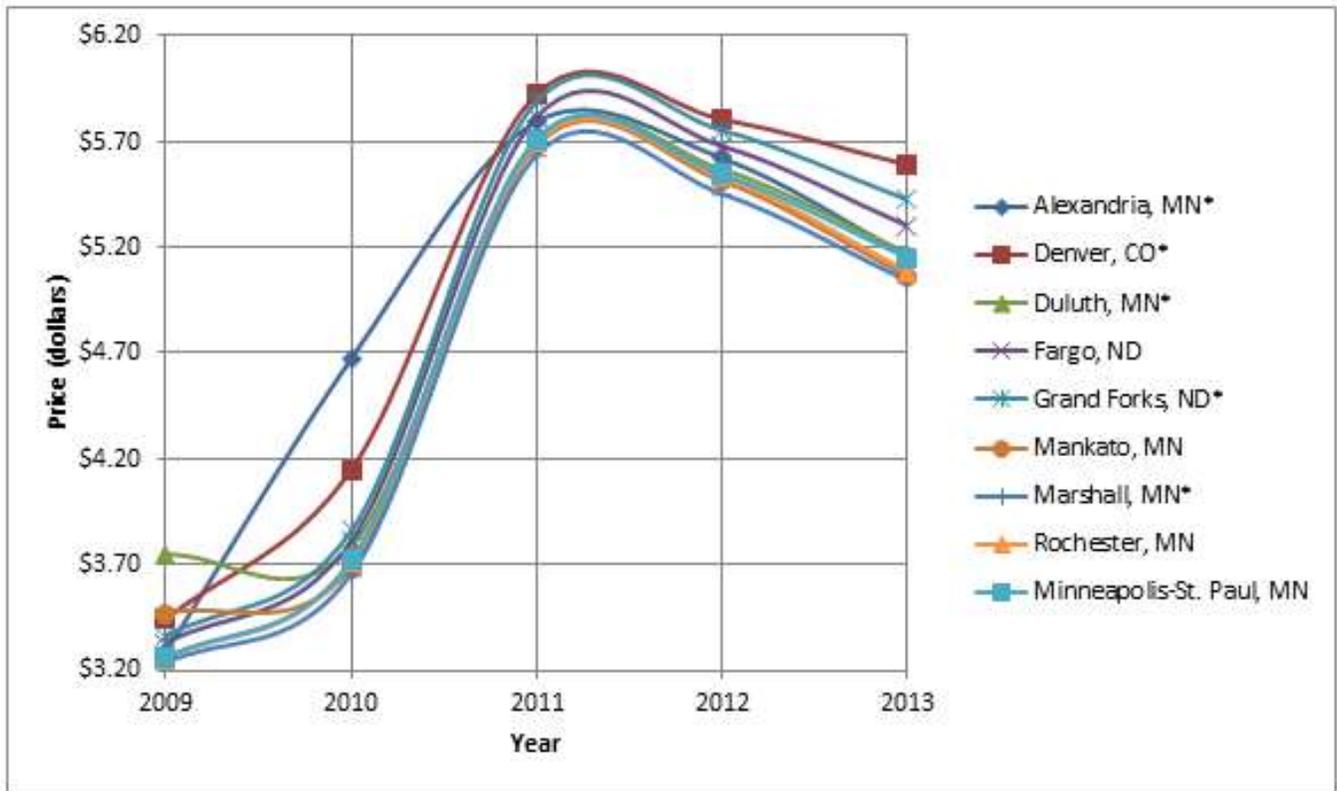
Alexandria: December 11, 2009 – December 8, 2010

Denver: June 26, 2009 – July 22, 2009; March 3, 2011 – September 29, 2011

Duluth: April 28, 2009 – July 22, 2009

Grand Forks and Marshall: June 5, 2009 – June 19, 2009; July 14, 2009 – July 22, 2009

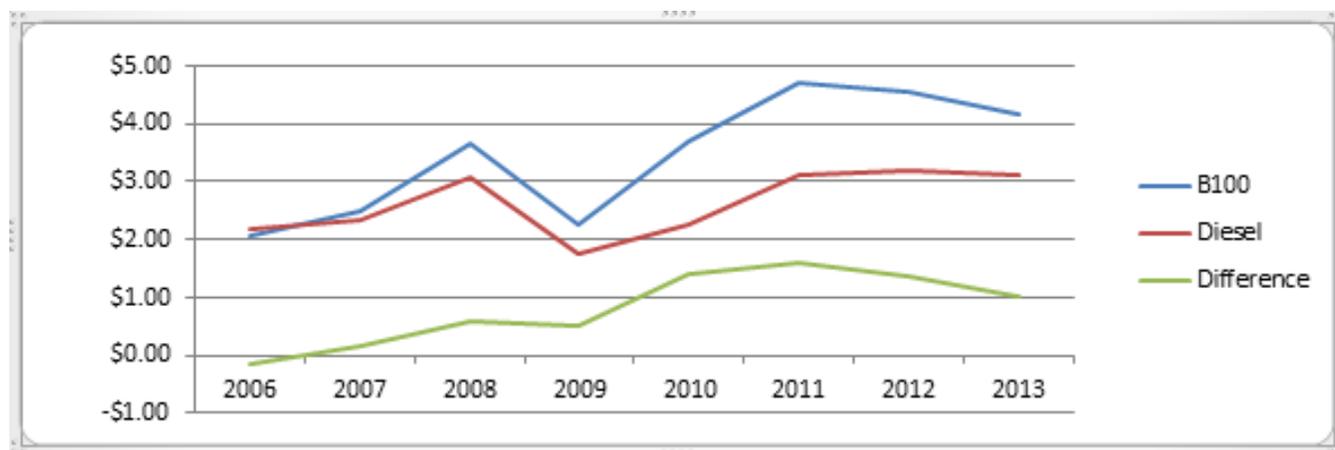
Figure 3. B100 pricing by city (average of terminals reporting), 2009-2013 (graph).



*-incomplete pricing data, see figure 2.

A graph of the net average wholesale prices (at the rack)—adjusted to illustrate after-tax costs of B100 compared to the wholesale cost of diesel at major Minneapolis/St. Paul terminal locations—can be seen in Figure 4. The retroactive \$1 tax credits for 2010 and 2012 have been subtracted from the B100 price, which is the price effective for the blender.

Figure 4. Minneapolis-St. Paul Diesel⁷ and Biodiesel⁸ Price Trends at the Rack, 2006-2013.⁹



Source: Minnesota Department of Agriculture analyses of Axxis pricing data through December 31, 2013.

Figure 5 demonstrates computed prices for biodiesel blends based on B100 and diesel prices reported at the rack, as demonstrated using the following formula:

Where:

P_b = Net price of one gallon of biodiesel to blender (after tax credit)

P_d = Price of one gallon of diesel at the rack

$\%b$ = Percent of biodiesel in blended fuel

$\%d$ = Percent of diesel in blended fuel

$$(P_b * \%b) + (P_d * \%d) = \text{Computed price of biodiesel blend}$$

⁷ Price of diesel at the rack (wholesale-Minneapolis/St. Paul average).

⁸ For 2006 to 2009, the price of biodiesel is the rack (wholesale) price after the \$1.00 federal tax credit. For 2010, prices reflect wholesale prices without the tax credit until December 20, although the tax credit was retroactively reinstated in December through 2011.

⁹ Generally, prices were recorded by Axxis daily (on business days). However, in 2006 prices were only recorded weekly and did not start until February for biodiesel and May for diesel. In 2007, diesel prices were consistently recorded on a daily basis throughout the year, while biodiesel prices were only recorded weekly from January through June and then daily for the remainder of the year. As such, averages prices for 2006 and 2007 represented in the chart may be less consistent than those in subsequent years. In addition, from March 24, 2008 to May 2, 2008, data on the price of biodiesel was not available through the Axxis pricing service. After a review of data in May, Axxis determined that the increase in price was not an error, but actually reflected market conditions. Axxis reestablished B100 prices effective May 2, 2008. To avoid the appearance of understating the price of biodiesel during that period, the average price of the last day of available data (March 28) and the first day of data (May 2) was inserted for the month of April. Prices since then have continued uninterrupted for both diesel and B100.

Figure 5. MSP Rack Diesel and Biodiesel Blend Prices (per gallon), 2006-2013.

Year (Blend Mandate)	Net Cost of B100 to Blender ⁶	Average Rack Diesel Price	Computed Price of B2	Computed Price of B5	Impact Price of Biodiesel at the Rack
2006 ^{1,2}	\$2.0584	\$2.1944	\$2.1917		-\$0.0027
2007 ³	\$2.4983	\$2.3388	\$2.3420		\$0.0032
2008 ^{4,5}	\$3.6607	\$3.0538	\$3.0659		\$0.0121
2009	\$2.2592	\$1.7456			
2009 (1-4 to 4-30) (B2)	\$2.2064	\$1.4120	\$1.4278		\$0.0159
2009 (5-1 to 12-31) (B5)	\$2.2864	\$1.9176		\$1.9361	\$0.0184
2010 ^{7,8}	\$3.6826	\$2.2741		\$2.3446	\$0.0704
2010 (w/o tax credit, 1-4 to 12-17) (B5)	\$3.6826	\$2.2614		\$2.3324	\$0.0711
2010 (w/tax credit, 12-20 to 12-31) (B5)	\$3.6822	\$2.6087		\$2.6624	\$0.0537
2010 (with \$1 tax credit all year)	\$2.7193	\$2.2741		\$2.2964	\$0.0223
2011 (1-3 to 12-30) (B5) ⁹	\$4.7100	\$3.1236		\$3.2029	\$0.0793
2012 ^{9,10}	\$5.5442	\$3.1832		\$3.3013	\$0.1180
2012 (with \$1 tax credit all year)	\$4.5442	\$3.1832		\$3.2513	\$0.0680
2013	\$4.1501	\$3.1298		\$3.1808	\$0.0510
1	2006 includes B100 and B2 prices for Feb 23 through June 20 and July 24 through Dec 29, and diesel prices for May 4 through Dec 29.				
2	Beginning in October 2006, the federal government limited sulfur in diesel to 15 ppm.				
3	2007 includes B100 and B2 prices for Jan 5 through Dec 31, and diesel prices from Jan 2 through Dec 31; however, biodiesel prices were very spotty (about weekly) from Jan-June whereas diesel prices were recorded daily				
4	2008 includes B100 prices for Jan 2 through March 24 and May 2 through Dec 31 (B2 prices consistent), and diesel prices from Jan 2 through Dec 31.				
5	From March 24, 2008 to May 2, 2008, data on the price of biodiesel was not available through the Axxis pricing service. The rapid increase in the price of biodiesel apparently caused a loss of data. After a review of data in May, Axxis determined that the increase in price was not an error, but actually reflected market conditions. Axxis reestablished B100 prices effective May 2, 2008. To avoid the appearance of understating the price of biodiesel during that period, the average price of the last day of available data (March 28) and the first day of data (May 2) was inserted for the month of April.				
6	Net cost of biodiesel is the net cost to the blender after federal tax credit is applied.				
7	B5 blend all year in #2 diesel; no B100 in #1 diesel 1-15 to 3-31 and 10-1 to 12-31				
8	The tax credit was reinstated (retroactive for 2010 and thru 2011) on December 20				
9	No B100 blended with #1 diesel January-March and October-December				
10	Calculated using no \$1 tax credit for 2012; tax credit reinstated retroactively for 2012 on 1-1-2013 through 2013				

The computed price of biodiesel blends was generally around 1 to 2 cents higher per gallon than diesel fuel from 2008 to 2009, at which point the blender's tax credit appeared to expire. The tax credit was reinstated retroactively in December, 2010, but it is unclear whether blenders were able to take full advantage of the retroactive credit. Since that time, prices have been higher. The average was about 7 cents over for 2010 (without the tax credit), 7.9 cents in 2011 (with the tax credit all year) and 11.8 cents in 2012. When factoring in the retroactive \$1 blender's tax credit for 2010 and 2012, these impacts are lowered to 2 cents and 6.8 cents, respectively. With the tax credit reinstated for 2013, the difference was 5 cents.

Computed prices for B2 and B5 have tracked closely with actual prices for these fuels at the rack, which generally ranged from about 5 cents more to 15 cents less per gallon than the blend at the rack (see Figure 6). The average difference in the calculated blend price and the actual blend price over the eight year period is a little over 2 cents less for the calculated price. These differences in price have been attributed to a variety of factors including the additional impact of the timing and length of marketing contracts; the marketing strategies of biodiesel producers, petroleum refiners, pipeline operators and position holders, the temporary losses of the federal tax credit, and the amortization of the cost of blending equipment installed at refiners and terminals.

Figure 6. Comparison of Projected B2/B5 Pricing and Actual Rack Pricing, 2006-2013.

Year (Blend Mandate)	Computed Price (using rack B100 price)		Rack Price		Computed/Rack Difference (Computed minus Rack)	
	B2	B5	B2	B5	B2	B5
2006 (B2)	\$2.1917		\$2.1678		\$0.0239	
2007 (B2)	\$2.3420		\$2.4901		-\$0.1481	
2008 (B2)	\$3.0659		\$3.0903		-\$0.0243	
2009 (1-4 to 4-30) (B2)	\$1.4278		\$1.4421		-\$0.0143	
2009 (5-1 to 12-31) (B5)		\$1.9361		\$1.9679		-\$0.0319
2010 total (average)		\$2.3446		\$2.3372		\$0.0073
2010 (w/o tax credit, 1-2 to 12-17) (B5)		\$2.3324		\$2.3238		\$0.0086
2010 (w/tax credit, 12-20 to 12-31) (B5)		\$2.6624		\$2.6898		-\$0.0274
2010 (with tax credit all year) (B5)		\$2.2964		\$2.3372		-\$0.0409
2011 (B5)		\$3.2029		\$3.2266		-\$0.0237
2012 (B5)		\$3.3013		\$3.2488		\$0.0524
2012 (with tax credit all year) (B5)		\$3.2513		\$3.2488		\$0.0024
2013 (B5)		\$3.1808		\$3.1703		\$0.0105

Figure 7 projects B10 pricing based on data from the past five years. These projections use average prices of diesel fuel and B100 for each year and apply the same formula listed above. Different scenarios are presented, all based on Minneapolis-St. Paul average prices at the rack, disregarding any effect for the trading of RIN's (see *Impact of RIN's* in the following pages). The increase in price reflects the divergent relationship of costs in B100 and diesel fuel over the past five years.

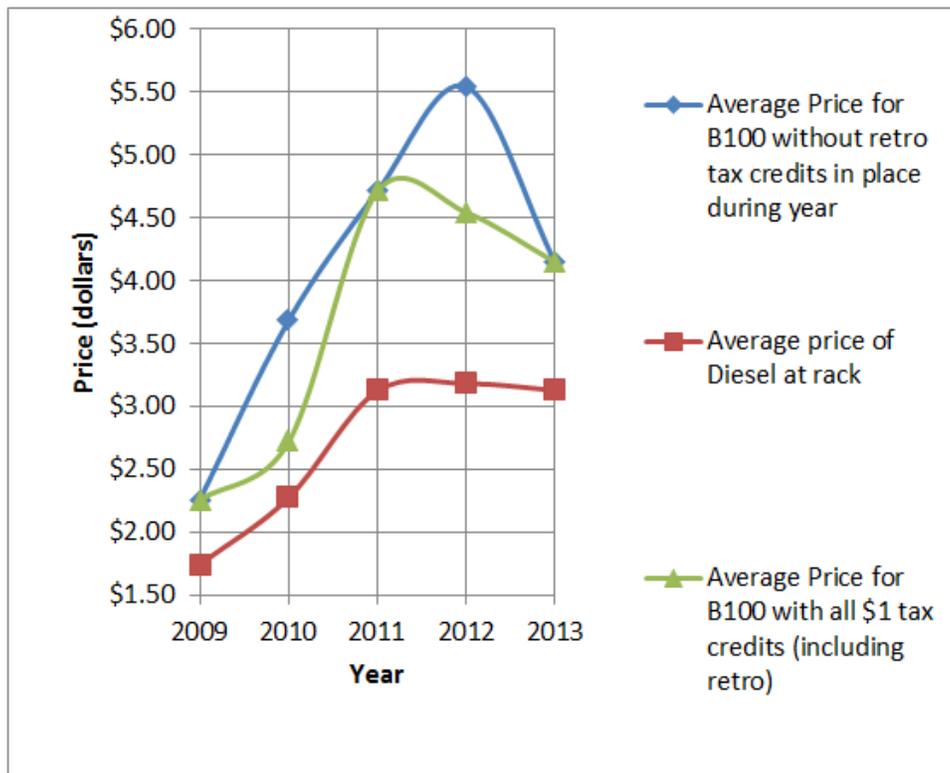
Figure 7. Projected cost of B10 (using tax credit with rack B100 price) over 2009-2013 with its associated cost difference with straight diesel fuel¹⁰.

Year (Blend Mandate)	Average Price for B100	Average price of Diesel at rack	Computed Average Price for blended fuel (B5 winter/B10 summer)	Price Impact of B5/B10 Blend
2009	2.2592	1.7456	1.7823	0.0367
2010¹	3.6826	2.2741	2.4251	0.1510
2010 - with all year tax credit	2.7170	2.2741	2.3056	0.0315
2011	4.7100	3.1236	3.2468	0.1232
2012²	5.5442	3.1832	3.3622	0.1790
2012 - with all year retro tax credit	4.5442	3.1832	3.2873	0.1041
2013	4.1501	3.1298	3.2106	0.0808

¹ – Total for year as it occurred with no tax credit 1-4 through 12-17

² – Total for year as it occurred with no tax credit during entire year

Figure 8: B100 and diesel fuel price trends, 2009-2013*.



* - the blender tax credit for biodiesel was not in effect during most of 2010 and all of 2012, but eventually reinstated retroactively for both years.

¹⁰ Data from Minneapolis-St. Paul rack averages as reported by AXXIS. This data assumes that the tax credit was not deducted from the B100 price (which is not always true), and does not take other factors, such as the trading of RINs by parties under RFS2, into account.

Impact of Federal Tax Credit

Production of biodiesel for 2011 set a new record at approximately 967 million gallons. This broke the 2008 mark of 690 million gallons set in 2008, and more than tripled the 315 million gallon output of 2010. That increase in production has been directly tied to the reinstatement of the Federal Tax Credit in December, 2010.

The 2010 tax credit continued through 2011 and expired on December 31, 2011. During 2012, the lack of the tax credit exemplified how the value of the RIN through RFS2 renewable fuel use requirements could be used as the only government intervention helping bring down the value of biodiesel fuel from its straight market value. The tax credit was reinstated, retroactive for 2012, through December 31, 2013, in the Federal Fiscal Cliff Legislation passed January 1, 2013.

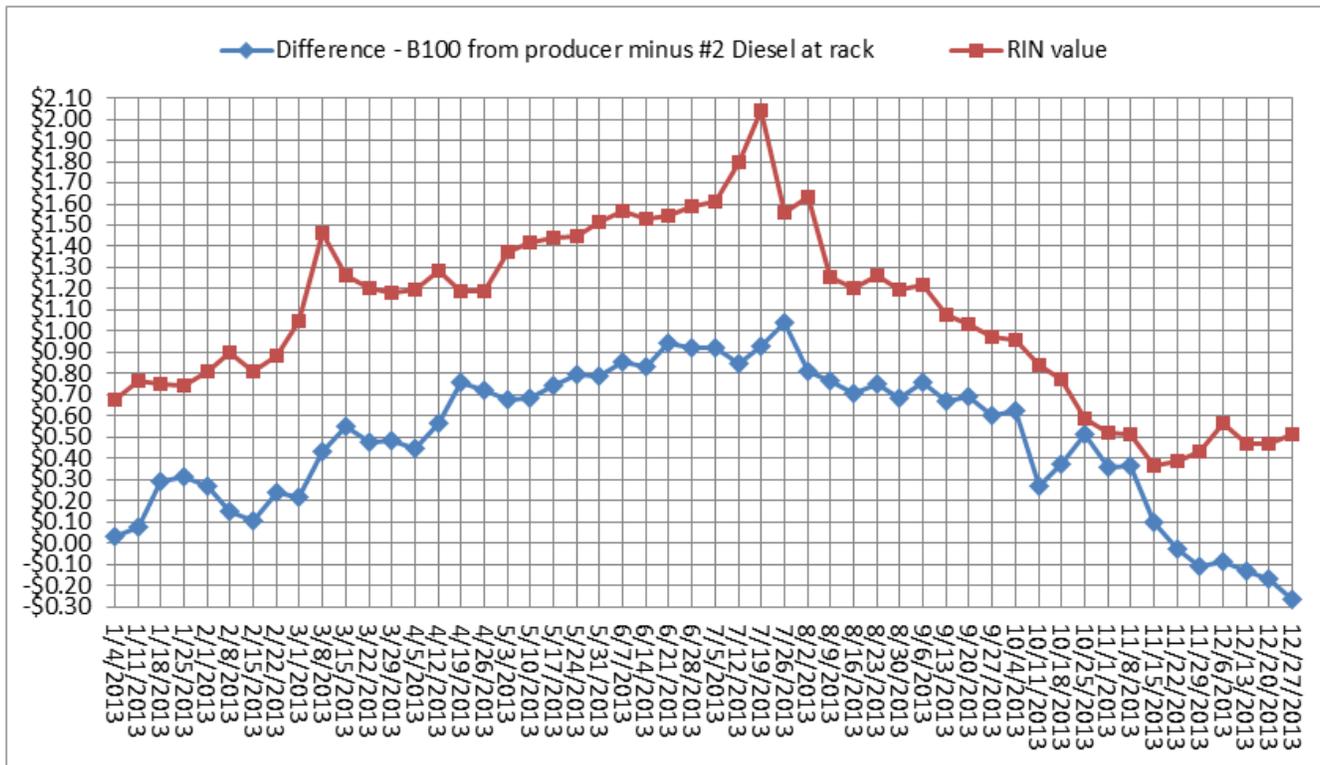
The federal tax credit has not been extended for 2014 as of this time.

Impact of RIN's

The RFS2 program allocates RINs to each gallon of biodiesel produced or imported. Each qualified gallon of biodiesel earns 1.5 RINs, which can be used by the blender to offset the cost of biodiesel. Toward the end of December 2013 the value of a biodiesel RIN was between 28.75 cents and 31 cents; therefore, each qualifying gallon of biodiesel had a RIN equivalent value between \$0.431 and \$0.465. Values earlier in the year reached as high as \$1.48/biodiesel RIN which is equivalent to \$2.22/gallon of biodiesel. This value was over and above the federal biodiesel blender's tax credit. RIN's are bought in the market by energy companies who do not blend renewable fuel or do not blend enough to meet their obligation and need to retire RINs to demonstrate compliance with RFS2.

For the year 2013 the RIN value together with the \$1 federal blender's credit were both factors that reduced the cost of B100. While obligated parties under RFS2 are mandated to blend certain percentages of their production with biofuels, other petroleum marketers and distributors are not required to do so. RINs can be separated from gallons of biodiesel purchased from the producer once the fuel is blended. The RINs can be sold in the market. A potential for profit from blending exists if the value is greater than the difference between the price of biodiesel purchased from the producer and the price paid for #2 diesel. A look at the RIN values and the weekly difference for averages of B100 minus diesel fuel for 2013 is shown in Figure 9.

Figure 9: Comparison of Difference in B100 from the Producer¹¹ Minus #2 Diesel Price¹², and the Biodiesel RIN Value¹³, 2013.



Keeping biodiesel RIN data week by week for the entire year, an average of 41.1% of the value of a biodiesel RIN gallon (and a median value of 48.4%) would make up for the difference in the two fuels being blended. The extra percentage of the RIN gallon price could be used for transport, processing, profit and price break to the customer for the blender that can sell RINs.

In 2012, the entire year played out without the \$1 blender’s tax credit. The tax credit was passed by the U.S. Congress on January 1, 2013 as part of the federal Fiscal Cliff Legislation, with its passage retroactive for all of 2012 through 2013. We kept data that show the effect of RIN values on pricing from February 17 through the end of 2012; this data was also adjusted for the retroactive tax credit at the end of the year.

Figures 10 and 11 show the two situations (without and with the tax credit) as figure 9 does for 2013: figure 10 is without the tax credit in place as events actually happened throughout 2012, and figure 11 with the tax credit added retroactively (as was the case retroactively). It is unknown to what degree the retroactive tax credit could be accessed by the various participants in the supply chain. Biodiesel plants in Minnesota issued certificates with their gallons sold throughout the year in the event that the tax credit was restored. We were informed by one large diesel fuel buyer that since they did not have provision in their contract with their supplier for the retroactive reinstatement of the tax credit reinstatement, they were unable to see any financial benefit from the reinstatement.

¹¹ National Weekly Ag Energy Round-Up. USDA Livestock and Grain Market News, Des Moines, IA.

¹² Weekly average rack price from Minneapolis-St. Paul terminals as reported by AXXIS.

¹³ PFL Markets Daily. Progressive Fuels Limited, Naples, FL.

Figure 10: Comparison of Difference in B100 and #2 Diesel Price with Biodiesel RIN Value, 2012 – as it appeared before the tax credit was reinstated.

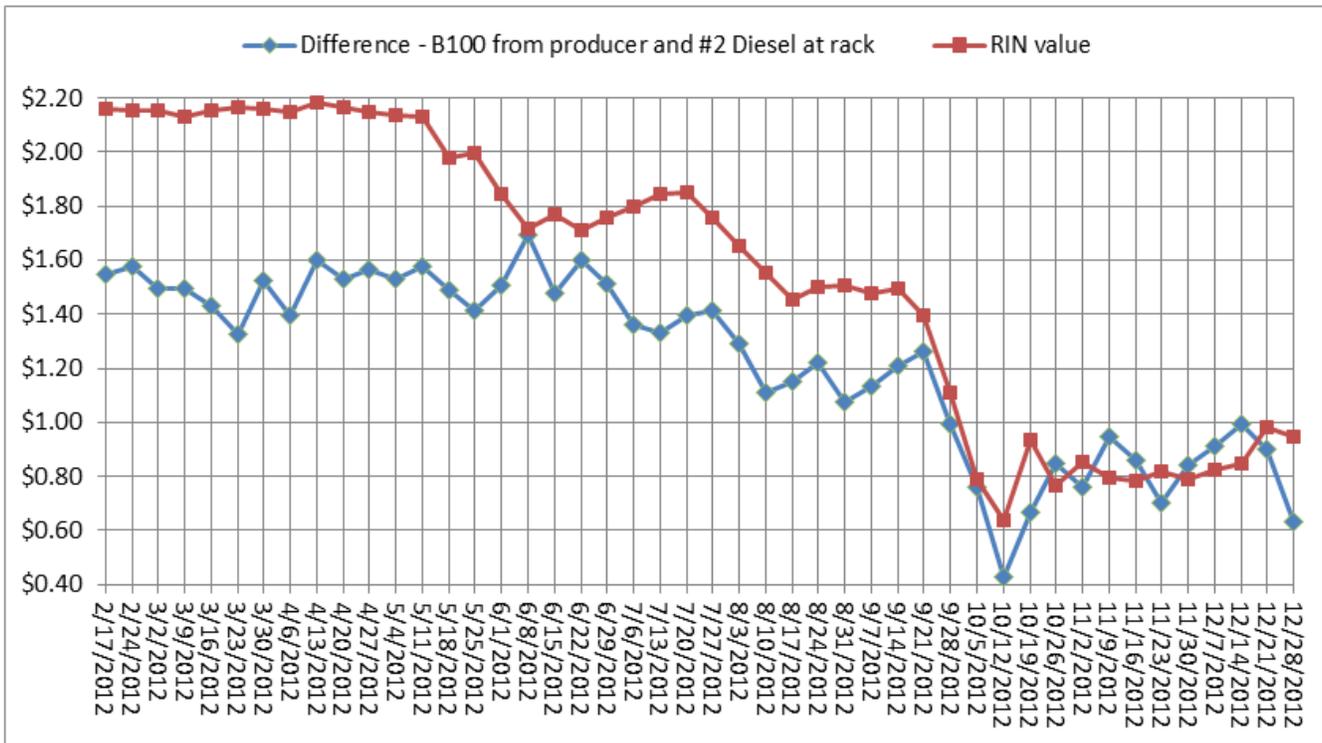
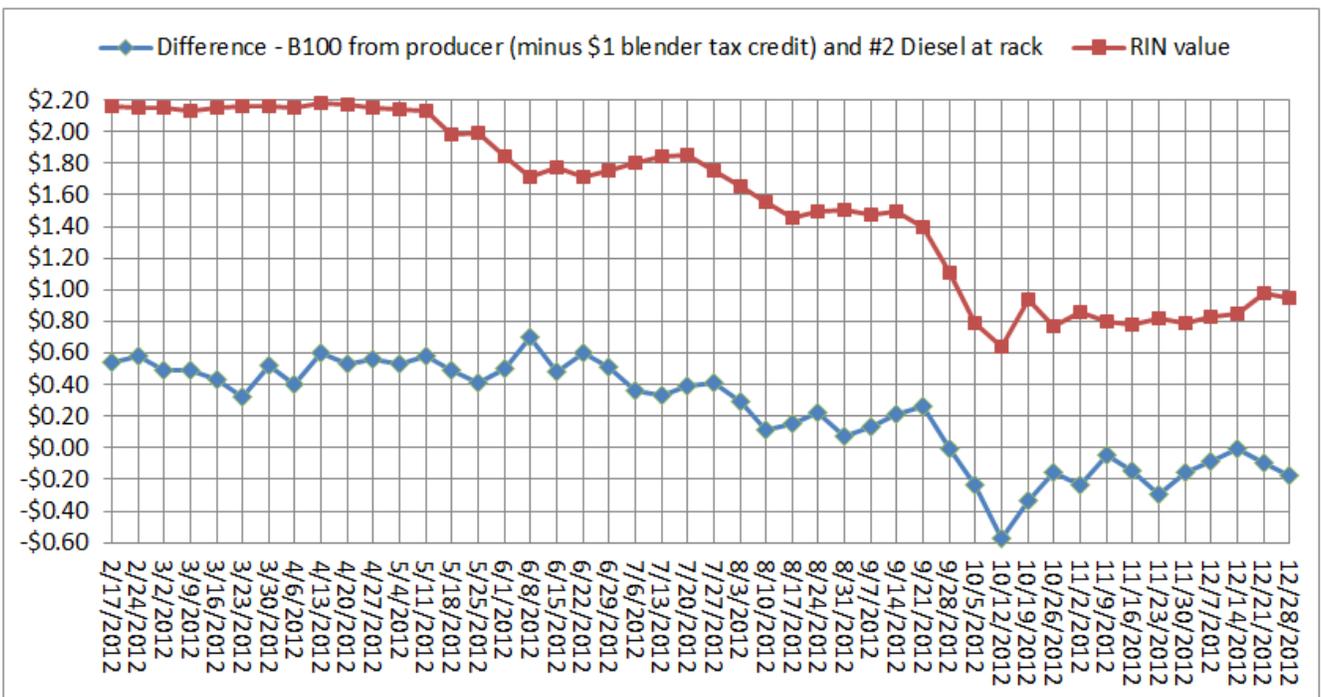


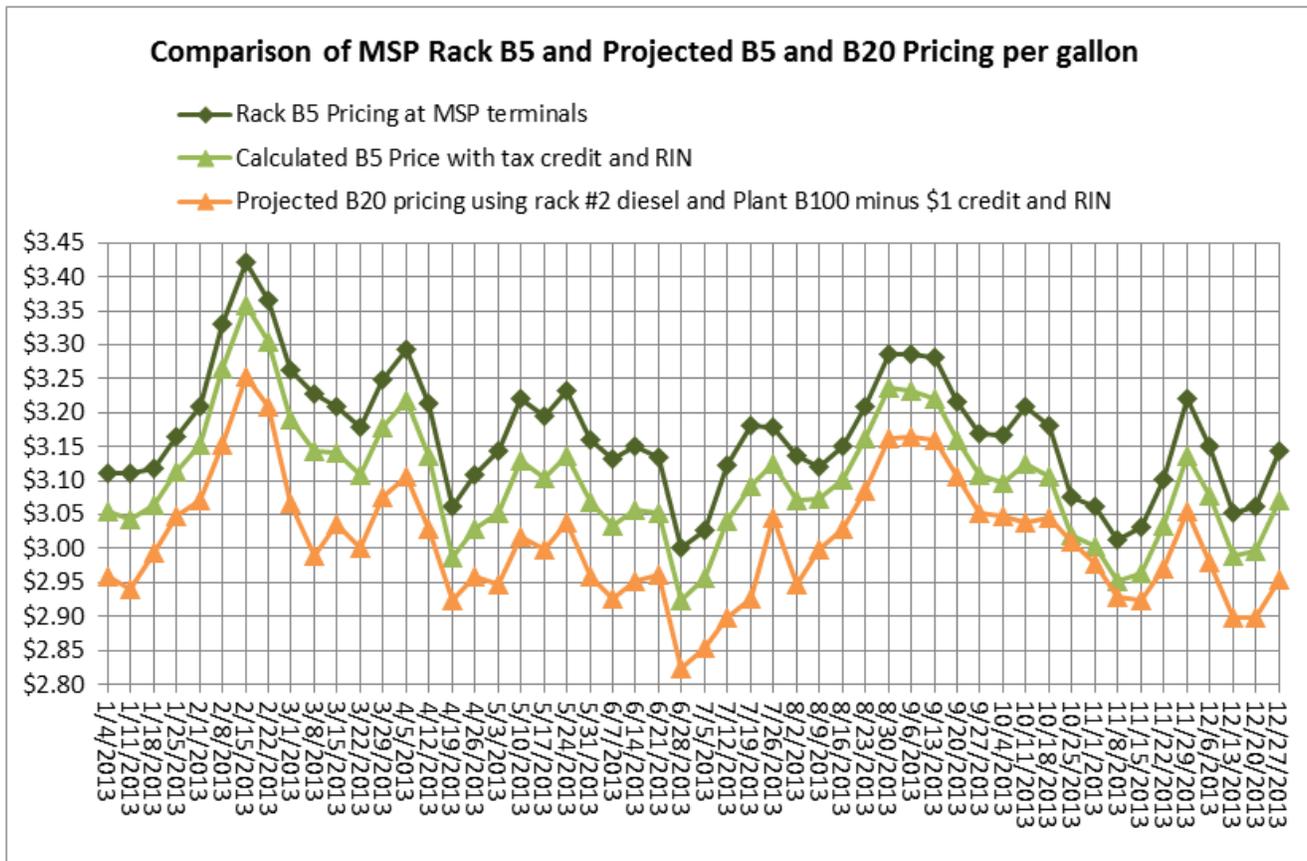
Figure 11: Comparison of Difference in B100 and #2 Diesel Price with Biodiesel RIN Value, 2012 – after tax credit was retroactively reinstated for the entire year of 2012.



And finally, when the net price for B100 (with blender tax credit and RIN) is less than the price paid for #2 diesel, the higher the percent of biodiesel blended in the fuel makes for a lower cost of the resulting blended fuel. Figure 12 shows the 2013 trend for B20 week by week, showing what profit could be

attained if blending using the rack #2 diesel price, a B20 projected price using the #2 diesel price and the Iowa B100 production price average and the formula on page 13, and the B5 price as listed on the MDA daily AXXIS data calculated as the average terminal price for Minneapolis-St.Paul.

Figure 12: Week-by-Week Profit Potential Independent of RIN Value: MSP Rack B5 Price, and Calculated B5 and B20 Price using Rack #2 Diesel and Plant Average B100



The ability to take advantage of RIN trading does require knowledge of the market, or services of an agency that specifically works with trading in that market. This data does show that there has been great potential profit for blenders who do not need to retire RINs to show compliance with the RFS. Minnesota’s obligated parties, due to the fact that the blending required by Minnesota’s biodiesel mandate is higher than blending volumes required nationally by RFS2, also should have excess RINs that they can use to satisfy national obligation or sell into the RIN market.

The effect of the reinstatement of the \$1 blender credit for 2013 has depressed the biodiesel RIN value when compared to 2012 values. Like 2012, the RIN still had value nationally through RFS2 and will continue to be a factor in determining final net price to the blender and consumer.

Tracking Retail Pricing

The request has often been made to look at the effect of Minnesota’s biodiesel mandate on retail pricing as it occurs on opposite sides of state borders along major trucking corridors. The Minnesota Department of Agriculture, with the assistance of Rich Lisauskas and staff at AXXIS, put together a sample report that could be purchased from AXXIS that would report this data. Figure 13 is the result of that effort. Purchase of such a report is under review by MDA and the Department of Commerce, with the goal to ultimately answer questions effectively regarding the effects of the mandate on retail pricing in relation to pricing in our bordering states.

Figure 13: Example Retail Pricing Report at Major Interstate Crossing Locations.

Region Groupings	Date	Diesel
City - MN, Austin*	2/27/2013	4.126
City - MN, Albert Lea*	Data needed	
City - IA, Mason City	2/27/2013	3.997
City - MN, Jackson**	2/27/2013	4.039
City - IA, Estherville	2/27/2013	4.216
City - IA, Spirit Lake	2/27/2013	4.039
City - MN, Blue Earth***	2/27/2013	4.121
City - IA, Forest City	2/27/2013	4.172
City - MN, Crookston***	2/27/2013	4.169
City - MN, Thief River Falls***	2/27/2013	4.221
City - ND, Grand Forks	2/27/2013	4.281
City - ND, Pembina	2/27/2013	4.259
City - MN, Duluth***	2/27/2013	4.149
City - WI, Superior	2/27/2013	4.161
City - MN, Luverne *	2/27/2013	4.192
City - MN, Worthington*	2/27/2013	4.083
City - MN, Pipestone *	2/27/2013	4.239
City - SD, Sioux Falls	2/27/2013	4.075
City - SD, Mitchell	2/27/2013	4.051
City - IA, Rock Rapids	2/27/2013	3.969
City - IA, Sibley	2/27/2013	4.014
City - MN, Montevideo*	2/27/2013	4.129
City - SD, Watertown	2/27/2013	4.129
City - SD, Aberdeen	2/27/2013	4.124
City - MN, Marshall***	2/27/2013	3.955
City - SD, Brookings	2/27/2013	4.132
City - MN, Moorhead***	2/27/2013	4.072
City - ND, Fargo	2/27/2013	4.120
City - SD, Sisseton	2/27/2013	4.093
City - MN, Pine City***	2/27/2013	4.056
City - WI, Grantsburg	2/27/2013	4.236
City - MN, Rochester***	2/27/2013	4.139
City - MN, Winona***	2/27/2013	4.100
City - WI, La Crosse	2/27/2013	4.194
City - MN, Saint Paul***	2/27/2013	4.116
City - MN, Minneapolis***	2/27/2013	4.123
City - WI, Hudson	2/27/2013	4.213

*	Minnesota more expensive than at least one neighboring town
**	Minnesota and at least one neighboring out-of-state town identical
***	Minnesota cheaper than all neighboring towns

Summary

The cost of biodiesel depends on a number of factors. Even with reinstatement of the tax credit this past year, RIN prices continue to be an important element in regards to profitability and price of biodiesel blends. RINs and other mitigating factors can contribute to fluctuations in profitability, the loss of jobs and the price of B100 becoming uncompetitive with diesel.

There would be less industry instability with the tax credit in place, as production would not be capped by RINs and RFS2. Establishing RINs as the de-facto replacement for the tax credit has yet to be thoroughly tested. At the very least they can help in sustaining the industry if the tax credit is

discontinued. If such is the case, more aggressive biodiesel/advanced biofuel volume requirements would be helpful. Overall RINs buffer the cost of biodiesel to make it possible for blenders to offer biodiesel blends without jeopardizing their profitability or increasing the consumer's cost of blends over the cost of diesel fuel.

Currently the EPA has set the same RFS2 blending requirement that was in place this past year for the next two years. This EPA ruling is currently under review until late January, 2014. 1.28 billion gallons of biodiesel was the quantity for biodiesel alone in 2013 – this up from 1 billion gallons of total blending requirement the previous year. Biodiesel can also be used to satisfy an obligated party's requirement for the advanced biofuel category. The advanced biofuel blending volume under RFS2 has also been reduced in the current ruling from 2.75 billion gallons in 2013 to 2.2 billion gallons for 2014, which is a reduction in other advanced biofuel (that could or could not be biodiesel beyond the 1.28 billion gallons) of 557 million gallons.

The net cost of biodiesel to the blender (which could ultimately be passed on to the consumer) is dependent on a number of variables including unpublished wholesale customer discounts, term contract prices versus spot market differentials, the value of RINs, profit margins and marketing strategies, not to mention whether or not the \$1 tax credit is renewed in the coming year. The ability to manage these variables can add to the profitability of blending; thus, the "actual cost" of biodiesel to blenders is not reflected by rack or retail prices alone.

Other costs may also exist, such as the use of cold weather additives, blending of #1 diesel in cold weather months, more frequent changing of fuel filters and cold weather associated repairs. These have not been documented by the Diesel Hot Line, but have been expressed as concerns by various diesel user groups. These costs would be added costs to the blender and the end-user.

Biodiesel Supply

The supply of biodiesel fuel to Minnesota terminals has been constant. No B5 outages occurred because B100 was not available. More common reasons for blend outages were the lack of diesel fuel at terminals or equipment taken down for servicing.

On November 28, 2012, Harms Oil Company of Sioux Falls, South Dakota held their grand opening for a new biodiesel blending facility across the street from the Magellan terminal in Sioux Falls. Two 20,000 gallon underground storage tanks were installed; one is heated and can keep the B100 at 75°F throughout the winter months. When the warm biodiesel is injected into the tanker of #2 diesel, the warmth helps with the overall blending of the fuels. The availability of biodiesel at this site has provided petroleum marketers in the southwest portion of the state an important additional option to comply with the statutory requirements of biodiesel sales in Minnesota.

Impact of Minnesota's Biodiesel Requirements

Production Capacity

Assuming approximately 840 million gallons of annual state diesel fuel use,¹⁴ it is estimated that the B5 mandate requires 50 million gallons of biodiesel; the B10 mandate would require 66.5 million gallons and the B20 mandate would require 115.5 million gallons of biodiesel to meet state blending requirements.¹⁵ The state's existing 63 million gallons of production capacity therefore provides more than the biodiesel necessary for B5, 95% for B10, and 55 percent of that required for B20. Differences in the actual rate of state diesel fuel usage and gallons of state production will increase or decrease the percentage of biodiesel available from state producers.

Minnesota's biodiesel mandate was an important incentive leading to the establishment of the state's existing biodiesel production capacity of 63 million gallons. Plans to further increase the minimum biodiesel content to B20 could therefore be an important driver of additional state biodiesel production capacity. The extension of the federal tax credit may cause producers to establish new production facilities or increase production to higher levels, but it remains to be seen how the loss of the tax credit would affect the spectrum of small to large producers. As the RIN value for biodiesel is used to reduce the cost of biodiesel to the consumer, this could bring profitability back to the biodiesel producer and restore investor confidence.

The prospect for new and increased biodiesel production capacity will also depend on developing markets and the relative price of organic fats and oils compared to diesel fuel. The Ever Cat Fuels biodiesel plant in Isanti, currently with 3 million gallons of production capacity, has had plans to expand capacity to 30 million gallons in the future. If that expansion occurs, the state would have at least 90 million gallons of capacity, which would provide sufficient biodiesel for a statewide B20 blend. In the last three years, FUMPA Bio-Fuels in Redwood Falls ceased producing biodiesel (a loss of 3 million gallons of capacity) while the plant in Albert Lea was restarted by REG.

The RFS2 is likely to have additional impact on any increased production that occurs in Minnesota and elsewhere around the country. In November 2013, the EPA (which sets the rules for implementing the RFS2) set the mark of 1.28 billion gallons for biodiesel in 2014 and 2015, the same biodiesel volume number as 2013. Biodiesel sold in excess of RFS2 requirements can count towards the advanced biofuel and total renewable fuel volume requirements. Given that biodiesel earns 1.5 RINs per gallon, most of the advanced biofuels requirement for 2013 has been fulfilled by biodiesel. The RFS2 continues to prove an important driver of biodiesel production throughout the United States.

An RFS2 with the considerable value of biodiesel RINs is a potent force to greatly expand the use of biodiesel. Finally, while the recent cost of biomass oil has been high, the world crude oil market has also proven to be very unpredictable. Some experts predicted that gasoline prices would exceed \$4.00 per gallon before the summer of 2012, which means that diesel fuel would have been in excess of \$4.50. Should the yield of soybeans and the corresponding oil be high, this could in turn reduce the cost of feedstock and lower biodiesel cost. In the end, it remains to be seen if the cost of biodiesel will remain higher than that of diesel into the coming years.

¹⁴ U.S. Energy Information Agency, 2012 Distillate Fuel Oil and Kerosine Sales by End Use, http://www.eia.gov/dnav/pet/PET_CONS_821USE_DCU_SMN_A.htm

¹⁵ B10 and B20 would only be effective during the summer months of April, May, June, July, August, September and October; during the "winter" months, the amount of biodiesel blended with diesel would revert back to 5%.

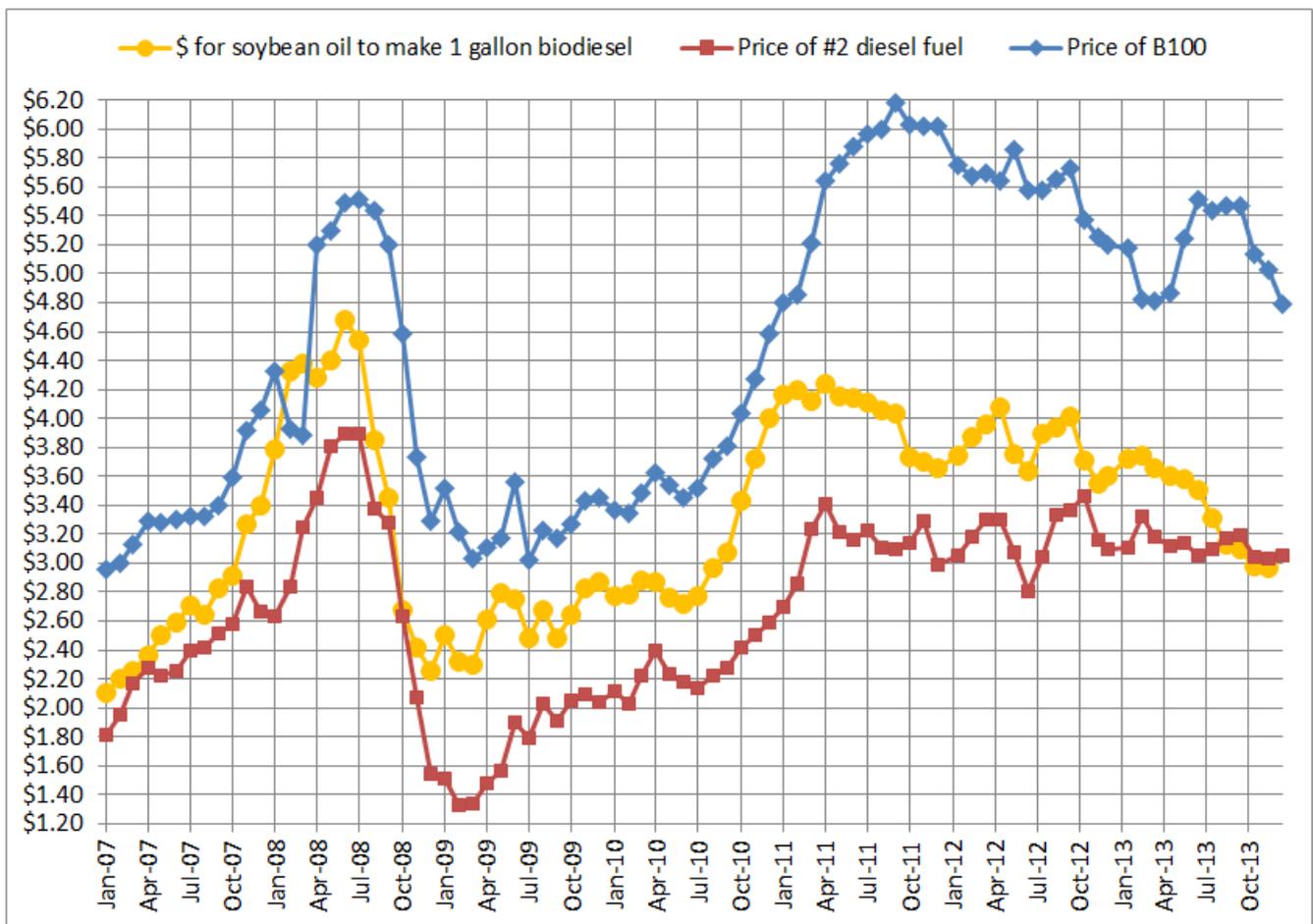
Feedstocks

The feedstocks used at biodiesel plants are generally determined by the price and availability of oil or fat products and the ability of plants to process the oil being considered. Minnesota Soybean Processors (MnSP) in Brewster will use oil from their soybean crushing plant. The REG plant in Glenville has bought oil from various soybean oil producers; this past year they completed a \$20 million upgrade to the plant that allows them to process lower cost fats and oils, such as inedible corn oil from ethanol plants, waste cooking oil and animal and poultry fats. The Ever Cat fuels plant in Isanti has the capacity to produce biodiesel out of plant and animal fat, spent cooking oil, or even fatty acid materials from various industrial sources.

Although various lipid feedstocks can be used, the large soybean oil crushing capacity in Minnesota suggests that much of the feedstock used in Minnesota's biodiesel plants can be sourced from Minnesota soybean oil producers.

The price of biodiesel appears to be a hybrid of following the price of soybean oil and diesel fuel (see Figure 14). Thus, the capacity to process non-soy oils and fats when the price is advantageous further benefits a biodiesel processor when margins with other feedstock are advantageous. Please note that the graph below list the Minneapolis-St. Paul rack price for biodiesel, without subtracting either the \$1 tax credit or the RIN value.

Figure 14: Price of #2 Diesel, Biodiesel¹⁶ and Soybean Oil¹⁷ in dollars, 2007-2013.



¹⁶ Price of diesel and biodiesel at the rack (wholesale-Minneapolis/St. Paul average)

¹⁷ Index Mundi, <http://www.indexmundi.com/commodities/?commodity=soybean-oil&months=120>

The Exceptions to Using Biodiesel Blends in Minnesota

Biodiesel Exceptions Review

Language added to Minn. Stat. 239.77, Subd. 5(b) in 2012 specifies this section of the report:

(b) The commissioner of agriculture, in consultation with the commissioner of commerce and the Biodiesel Fuel Task Force, shall study the need to continue the exceptions in subdivision 3. The 2013 report under paragraph (a) shall include recommendations for studies and other research needs to make a determination on the need for the exceptions, including any recommendations for use of the agricultural growth, research, and innovation program funding to conduct the research. The 2014 report under paragraph (a) shall contain the commissioner of agriculture's recommendations on whether to continue any of the exceptions in subdivision 3.

Minn. Stat. 239.77, Subd. 3(a)(1)-(5) lists five sectors which currently have exception to the biodiesel mandate:

- (1) motors located at an electric generating plant regulated by the Nuclear Regulatory Commission;
railroad locomotives;
off-road taconite and copper mining equipment and machinery;
off-road logging equipment and machinery; and
vessels of the United States Coast Guard and vessels subject to inspection under United States Code, title 46, section 3301, subsection (1), (9), (10), (13), or (15).

The 2013 Biodiesel Report to the Legislature gave the five sectors with exceptions invitations to address their continuing need for exception to the biodiesel mandate. After their comments were complete, they were circulated to members of the Minnesota Biodiesel Task Force who then had the opportunity to respond. No recommendations for further study were included by the sectors with exceptions or the members of the Biodiesel Task Force in their comments to the report.

The Minnesota Commissioner of Agriculture, based on the 2013 Biodiesel Report to the Legislature, is making the following recommendations for continued exception to the biodiesel mandate:

- (1) motors located at an electric generating plant regulated by the Nuclear Regulatory Commission; this exemption will be reviewed 30 days after the Nuclear Regulatory Commission has approved the use of biodiesel fuel in motors at electric generating plants under its regulation.
- (2) vessels of the United States Coast Guard and vessels subject to inspection under United States Code, title 46, section 3301, subsection (1), (9), (10), (13), or (15). This exemption will be reviewed when ISO 8217 or another applicable standard that is accepted by the marine fuel industry includes a specification for biodiesel fuels.

Appendix A: Minnesota Biodiesel Task Force Member Comments

Flint Hills Resources (Brett Webb, member of the Biodiesel Task Force), who owns and operates a refinery in Rosemount, asked that the following letter being included in the annual report:

October 15, 2013

Kevin Hennessy, Biofuels Manager
Minnesota Department of Agriculture
625 Robert Street North
St. Paul, MN 55155-2538

Dear Mr. Hennessy:

This letter is in response to the State of Minnesota's recent decision to increase the mandated minimum level of biodiesel that must be blended with diesel fuel from five to 10 percent. Flint Hills Resources continues to have concerns about the mandate's effect on the marketplace, individual consumers, and potentially, the health of the biofuels industry.

Flint Hills Resources is a leading refining, biofuels and chemical company with operations throughout the Midwest. Our biofuels business includes a half dozen ethanol plants with a combined capacity of approximately 660 million gallons per year, a biodiesel facility operating in Texas, and an interest in a biodiesel facility being constructed in Nebraska. Flint Hills Resources also maintains significant investments in biofuels technologies and feedstock development. In Minnesota specifically, the Flint Hills Resources Pine Bend refinery in Rosemount supplies much of the gasoline and diesel fuel used throughout the upper Midwest.

As both a petroleum refiner and biofuel producer, Flint Hills Resources is keenly interested in maintaining the highest degree of consumer confidence in the quality and reliability of the fuels the driving public depend on for powering their motor vehicles. We also believe consumer choice and market-based competition, not mandates, are the foundation on which a sound and sustainable industry is built.

The B10 mandate does present several challenges that should be addressed prior to the required implementation deadline of June 27, 2014. We respectfully request the state consider the following factors in its ongoing assessment of the biodiesel mandate, and where possible, make whatever adjustments are necessary to protect Minnesota consumers and economically viable biodiesel from these unintended consequences:

- **Approved engines:** A significant number of diesel engines are still not approved for use of B10. This includes a number of popular light duty vehicles manufactured by Mercedes and Volkswagen as well as many older diesel vehicles still in use in Minnesota. Neither fuel suppliers nor consumers will have a choice with regard to this mandate, so the State of Minnesota needs to explain how it will protect consumers against harm that could result from the use of B10.
- **Cold weather concerns:** Minnesota temperatures in April, September and October pose risk to storage and use of B10. Additionally, fuel purchased in October may not entirely move through the distribution system for several weeks. If the B10 mandate is fully adopted, Flint Hills Resources would recommend amending the mandated period to exclude these colder months and extending a

full waiver for unblended #1 diesel fuel to give consumers added protection during cold weather outbursts.

- **Mandating B10 use is unnecessary:** Nothing prohibits any wholesaler or retailer from offering B10 to any consumer who wishes to purchase it today. There is an adequate distribution system and supply of biodiesel to meet the demand. The only reason to mandate the use of B10 is to ensure that it is used when it's uneconomical to do so which is clearly bad for Minnesota consumers. A B10 mandate would also eliminate a potentially more economic B5 option from the marketplace, harming consumers.
- **Mandating B10 creates the potential for an economic disruption:** Since biodiesel has typically priced \$2-\$3 gallon higher than diesel fuel, the incentive to blend biodiesel is primarily subsidized by the \$1-per-gallon federal tax credit and value of RINs in the Federal Renewable Fuels Standard program. Both of these programs are subject to change on short notice, which leaves the future economics of biodiesel uncertain. Mandating the use of B10 exposes Minnesota retailers and consumers to potential economic harm if the subsidies and incentives to blend biodiesel are reduced or eliminated leaving B10 significantly more expensive than diesel sold in neighboring states.
- **California mandate could affect local biodiesel supplies:** The State of California's recently adjudicated Low Carbon Fuel Standard creates the potential for unprecedented demand for biodiesel from the world's 12th largest economy. Minnesota-made biodiesel is not bound by state borders or immune from the pull of competing market forces. The Minnesota B10 mandate is in direct competition with the California law. The potential impact on Minnesota's supply and the cost of complying with the B10 mandate under these circumstances regardless of cost is uncertain.
- **The B10 mandate is immediately followed by a more dramatically disruptive B20 mandate:** The decision to move forward with B10 is further complicated by a subsequent statutory requirement to adopt the B20 mandate less than a year after the B10 mandate is now slated to go into effect. The Minnesota Department of Agriculture, the Minnesota Department of Commerce, and the Minnesota Pollution Control Agency ruling that the statutory conditions have been met to allow the move to B10 seems to leave little room for delaying the adoption of B20 just months later as currently required in statute. Such a move would greatly compound the unintended negative consequences described above and likely create new ones that the Minnesota Biodiesel Taskforce has yet to contemplate or resolve.
- Flint Hills Resources appreciates the opportunity to provide these comments and to serve on the Minnesota Biodiesel Taskforce. We offer these comments in an effort to ensure the continued reliability and prudent integration of biodiesel into Minnesota's fuel supply. We look forward to continuing this important work.

Respectfully,

Brett Webb
Director, Commercial Development
Flint Hills Resources

CC: Minnesota Biodiesel Taskforce
Commissioner Dave Frederickson, Minnesota Department of Agriculture
Commissioner Mike Rothman, Minnesota Department of Commerce
Commissioner John Linc Stine, Minnesota Pollution Control Agency

John Hausladen, President of the Minnesota Trucking Association, asked that the following letter be included in this year's report.

September 16, 2013

Commissioner Dave Frederickson
Minnesota Department of Agriculture
625 Robert Street N
St. Paul, MN 55155

Dear Commissioner Frederickson:

During the July 17, 2013 meeting of the Biodiesel Task Force, the group was led through a general discussion regarding the statutory requirements that must be met before the mandated biodiesel content level may be increased.

While we had good conversation regarding the ASTM standards, supply, blending infrastructure and sourcing, we spent little time on the issue of cost and cost competitiveness. The Minnesota Legislature explicitly wanted such conversation by including it in Minn. Stat. 239.77 Sub. 2. (e).

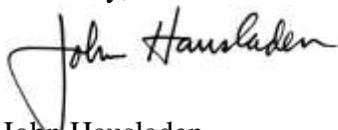
We have repeatedly asked at task force meetings if the State of Minnesota can determine what cost impact, if any, biodiesel blends have on the base price of diesel fuel sold in the state. So far, we have been told that such impacts cannot be determined. We have been told that federal blending credits and RIN (renewable identification number) values artificially increase or decrease the costs. We have also been told that the agencies charged with overseeing the program do not have the data or financial resources to conduct this type of economic analysis.

Our organization believes it is unwise to raise the mandated biodiesel content without first being able to clearly answer the question regarding cost impacts.

While the agencies are not compelled to seek a vote from the task force, I want to clarify that there was not unanimous consent to move forward with an increase at this time. In our opinion, significant questions remain unanswered.

Thank you for your consideration of our position. Please contact me at 651-646-7351 if I can answer any questions.

Sincerely,

A handwritten signature in black ink that reads "John Hausladen". The signature is written in a cursive style with a large, stylized initial "J".

John Hausladen
President

CC: Commissioner John Stine, Minnesota Pollution Control Agency; Commissioner Mike Rothman, Minnesota Department of Commerce; Dan Savaloja, MTA Chair; Kyle Kottke, MTA Vice Chair