# Indiana Soybean Biodiesel Report



# Prepared for the Indiana Soybean Alliance Hennepin Group -March 5, 2020

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# Introduction

The following report has been commissioned by the Indiana Soybean Alliance. The goal is to explore the feasibility of expanded biodiesel production in Indiana. Soybean production numbers, biodiesel production data and state-by-state comparisons will provide information and context for decisionmakers. Conversations with Alliance staff generated topics and areas of focus.

Investments made by the Indiana Soybean Alliance must show an economic return to soybean growers. Perhaps the most important issue to research is whether investing resources into biodiesel will yield positive financial results. This overview provides evidence that increased production and consumption of biodiesel returns significant value to farmers. Increased demand for soy oil lifts prices for soybeans. Increased numbers of buyers create competition for beans that have a positive influence on basis pricing. Livestock producers benefit from biodiesel plants through lower priced feed. Rural communities benefit from construction jobs, ongoing jobs, and value-added agriculture.

An overview of Indiana's agriculture and biodiesel production will be followed by estimates of capacity. The report will estimate how much biodiesel Indiana could produce and consume. This will be based on current ag and diesel consumption.

A summary of Indiana's transportation and fuel infrastructure will also be provided. It is important to understand the liquid fuels infrastructure including refining capacity, terminal locations and their offerings to determine where opportunities exist.

Renewable fuels pricing and availability are heavily influenced by federal and state policy. Decision makers need a basic understanding of the Renewable Fuels Standard (RFS), and Renewable Identification Numbers (RINs). The report will summarize four state polices that incent biodiesel use.

Biodiesel has significant positive air quality impacts on communities that utilize it. Cities that fall out of attainment with the Clean Air Act must create a plan to improve air quality, and biodiesel can be part of that plan.

Any state with a large agriculture sector can add value to soybeans by increasing consumption of biodiesel. This lifts farmers' income, increases rural employment and economic development, positively impacts air quality and reduces carbon emissions. The data indicates that Indiana has the capacity to grow biodiesel production and consumption in state, and in turn increase soybean profitability.

# **Economic Impact**

Biodiesel adds value to soybeans by creating demand for soy oil. The increased demand lifts the prices for soybeans. Examples below show that investments in biodiesel will prove to be beneficial to the ag community and the state economy.

Biodiesel is a renewable fuel that can be made from fats or oils. The United States currently produces nearly three billion gallons annually, with the approximately 50% of feedstock being soy oil. The National Biodiesel Board (NBB) reports increased demand for oil raised prices for soybeans by 63¢ per bushel. Indiana's 273 million bushels increased in value by over \$171 million due to biodiesel.

Cash prices for soybeans offer a great way to prove the value of the biodiesel industry to soybean farmers. All things being equal, a farmer would rather have more buyers for his crop. Minnesota has consistently seen negative basis for soybeans, over one dollar for February 2020, in the far northwest parts of the state. In southern Minnesota where there are several soybean plants that compete with elevators for beans, basis is cut in half.

Indiana has large variance in basis as well. A comparison below shows that coops near the Louis Dreyfus plant in Claypool are offering higher net prices to farmers than coops farther away. The data represent March 2020 cash prices.

Company	City	Cash	Price	Basis
Louis Dreyfus	Claypool	\$	9.33	\$ 0.30
Harvestland	Richmond	\$	8.93	\$ (0.10)
ADM	Frankfort	\$	9.24	\$ 0.21
Alliance Feed	Avon	\$	9.03	\$ -
Cargill	Lafayette	\$	9.24	\$ 0.21
Co-Alliance	Goodland	\$	8.81	\$ (0.21)
Co-Alliance Malden	Valparaiso	\$	8.97	\$ (0.05)
Ag Plus	Churubusco	\$	8.97	\$ (0.05)
Farmers Cooperative Co	Wolcott	\$	8.84	\$ (0.18)

The price paid to farmers varies greatly by location around the state. Pricing has to consider transportation costs among other factors. The cash price ranges from \$8.81 to \$9.33. It is notable

that the value-added processors in the table above are offering the most competitive prices. A recent University of Minnesota study concluded that a 30 million gallon a year biodiesel plant in northwest Minnesota would raise basis between 10-20¢ in an 11-county area<sup>1</sup>.

Ethanol plants, livestock producers and communities that house the biodiesel plants will benefit.

The production and utilization of corn oil as a biodiesel feedstock will be discussed below. In this section it is worth noting that biodiesel plants can further add value to Indiana's 814 million bushels of corn. Creating more demand for corn oil will create a local market that would help support increased price.

Livestock producers benefit from biodiesel production in the form of lower feed prices. 80% of a bushel of soybeans is high-protein meal. When plants increase their crush to acquire soy oil it results in more meal. NBB estimates that the increased demand for oil has lowered soybean meal prices by between \$16 and \$48 per ton.

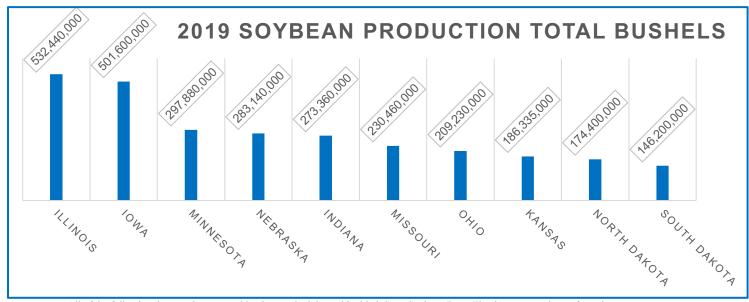
Finally, rural communities benefit from the construction and operation of large biorefineries. The University of Minnesota estimated that construction of a 30-million-gallon biodiesel plant would generate \$134 million in economic activity and support 820 jobs<sup>2</sup>. The same report estimates supporting 330 new jobs from ongoing operations. Plant jobs are well-paying and can't be outsourced, a positive for every community.

The examples above indicate that increased biodiesel production would create a range of positive economic benefits. Soybean farmers, ethanol plants, livestock producers and rural communities all stand to benefit.

<sup>&</sup>lt;sup>1</sup> Tuck, Brigid, et al. "Potential Economic Impact and Basis Analysis of a Soybean Crush and Biodiesel Facility near Crookston, Minnesota" January 2019
<sup>2</sup> Ibid

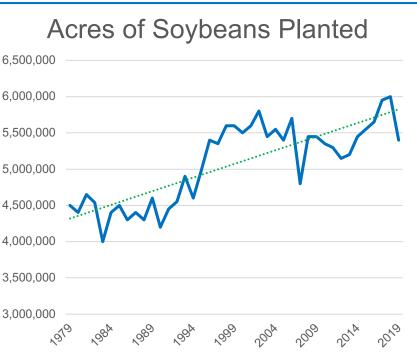
### Indiana Soybean Production

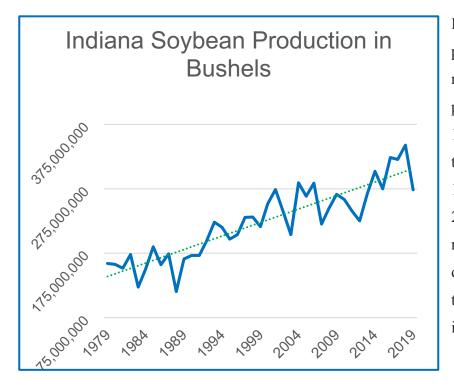
Indiana has a large, diversified agriculture sector. According to USDA Economic Research Service (ERS) data for 2018 (the last year full data is available) Indiana had farm gate receipts totaling over \$10.5 billion. USDA National Agricultural Statistics Service (NASS) lists Indiana fifth in production of soybeans (behind Illinois, Iowa, Minnesota, and Nebraska) at 273 million bushels.



All of the following data can be accessed by the attached data table titled, State Soybean Data. The data set was drawn from the USDA NASS Quick Stats data tool.

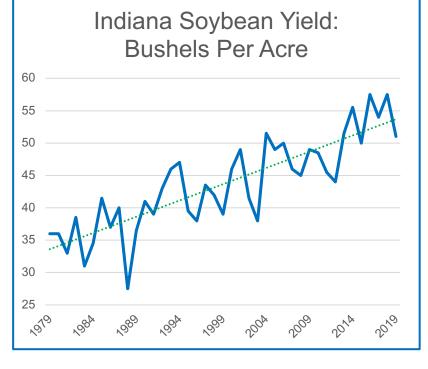
Indiana has consistently been a leader in soybean production for the last four decades, with increases in acres planted, yield and total production. Acres planted increased from 4,500,000 in 1979 to 5,400,000 in 2019, a 20% increase.



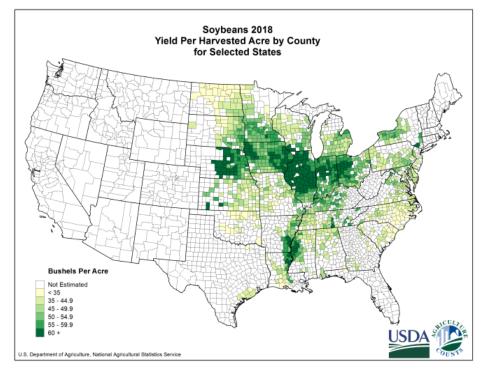


Indiana has been a top five producer of soybeans as measured by total annual production every year since 1979. It has finished out of the top four only five times: 1979, 1986, 2010, 2011 and 2015. The recent drop in rankings had less to do with a drop in production, and more to do with Nebraska's increases.

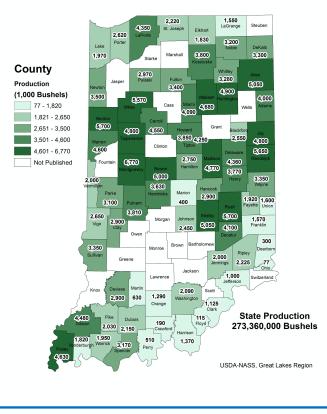
From 1979 to 2019, yield increased from 36 bushels per acre to 51, a 42% increase. Total bushels produced have jumped nearly 72% in that time, from 159 million bushels to 273 million bushels. That production increase is especially noteworthy given that planted acres increased only 20%.



The maps below show United States and Indiana soybean production by county. Indiana is part of the United States soybean belt. While there is soybean production throughout the entire state, the heaviest production is in the middle third of the state, from border to border.



The history of production proves Indiana is a reliable supplier of soy. The trendlines in each chart show a history of growth as well, meaning that if past improvements continue, there will be increasing amounts of soy oil to support an expanding biodiesel industry.

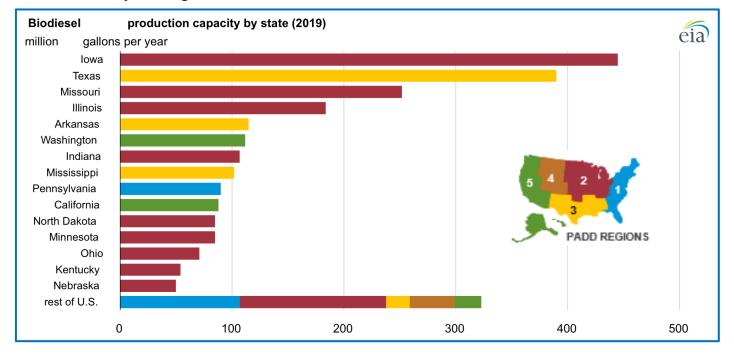


#### 2019 Indiana Soybean Production

# Indiana Production of Biodiesel

Indiana is a top 10 producer of biodiesel in the country. This ranking is based almost solely on the production at the 99-million-gallon Louis Dreyfus plant located in Claypool.

The chart below shows that a majority of the biodiesel is produced in Petroleum Administration for Defense District (PADD) 2. PADD 2 contains nine of the top fifteen biodiesel producing states.<sup>3</sup>



Indiana has two other biodiesel plants listed by EIA. Alternative Fuel Solutions is located near Huntington with reported production of three million gallons per year. Intergrity Bio-Fuels is located in Morristown with reported annual production of five million gallons. The author received several reports that these plants were not operating at this time, or were operating intermittently based upon market pricing.

<sup>&</sup>lt;sup>3</sup> U.S. Energy Information Administration (September 2019) U.S. Biodiesel Plant Production Capacity Report

# Indiana Biodiesel Production Capacity

Indiana is well positioned to increase production of biodiesel, given its' abundance of feedstocks. Increased production of biodiesel would support the state's soybean farmers by increasing demand for soy oil. A large biodiesel industry could also benefit the state's corn farmers and ethanol plants by creating demand for distillers' corn oil (DCO).

Earlier in the report, data was provided to show Indiana has a record of reliable production and increasing yields of soybeans. The data below support the idea that Indiana could significantly increase their production of biodiesel with the soybean production it currently has.

Indiana ranked fifth in 2019 with 273 million bushels of soybean production and has been a top five producer for the past four decades. Each bushel of soybeans contains approximately 11 pounds of soy oil<sup>4</sup>, which yields approximately 1.5 gallons of biodiesel. Indiana's current soybean production could support 410 million gallons of biodiesel production.

#### 273 million bushels soybeans \* 1.5 gallons = 410 million gallons of biodiesel

Indiana has existing soy crush facilities that could potentially be used as a source of soy oil feedstock. According to the National Oilseed Processors Association, Indiana has six soybean processing facilities operating in the state:

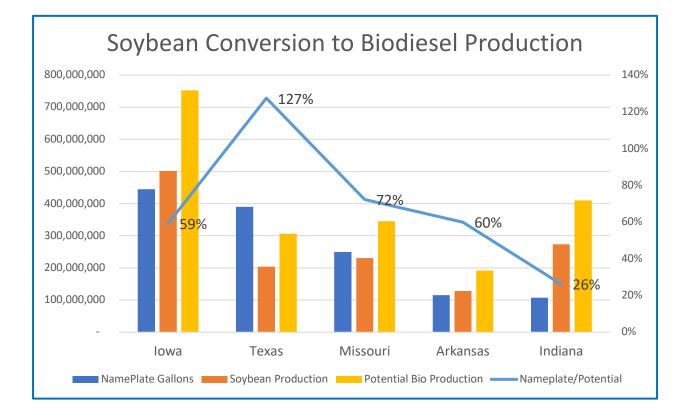
- Archer Daniels Midland in Frankfort
- Bunge North America in Decatur and Morristown
- Cargill in Lafayette
- Consolidated Grain & Barge in Mount Vernon
- Louis Dreyfus Commodities in Claypool

The ethanol industry could be both a contributor to and a potential beneficiary of a growing biodiesel industry. Dried distillers' grains (DDGs) are a co-product of the ethanol process. This product is utilized in the livestock industry as feed. The ethanol industry has started to remove the corn oil from DDGs. DCO is now used as a feedstock for the biodiesel industry. It is estimated that an ethanol plant creates .8 pounds of DCO per bushel of corn processed.<sup>5</sup> Indiana's 14 ethanol plants processed 431 million bushels of corn in 2019<sup>6</sup>, also creating 43 million gallons of DCO. This can serve as another feedstock source for biodiesel plants.

Indiana is well-situated to supply the feedstocks for a biodiesel industry. If the state's soy oil and corn oil potential was maximized, production could near 453 million gallons. That would exceed Iowa's nation-leading 445 million gallons.

 <sup>&</sup>lt;sup>4</sup> US Soybean Export Council, Conversion Table October 2015 <u>https://ussec.org/resources/conversion-table/</u>
 <sup>5</sup> S. Schill. (2019, November 20). Pounds That Pay. *Ethanol Producer Magazine*. Retrieved from <a href="http://ethanolproducer.com/articles/16690/pounds-that-pay">http://ethanolproducer.com/articles/16690/pounds-that-pay</a>

<sup>&</sup>lt;sup>6</sup> U.S. Energy Information Administration (August 2019) U.S. Fuel Ethanol Plant Production Capacity



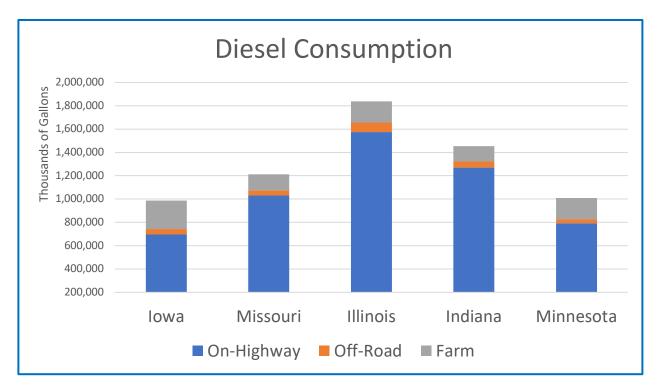
Indiana has not been as successful as other agriculture states in converting soybean production into biodiesel production. The chart above compares five leading biodiesel producing states. The first bar is the state's current name plate capacity of biodiesel production, or how many gallons their plants could produce at full operation. The second bar is the state's soybean production, and the third bar is the state's potential biodiesel production if converting all soy oil to biodiesel. The line on the chart represents the current percentage of production divided by its potential. The graph shows Indiana is only converting 26% of its oil into biodiesel. This low conversion rate is a missed opportunity. The other four states are converting their soybeans into biodiesel at a much higher rate. Indiana has the agricultural resources to be a significantly larger producer of biodiesel than it is today.

# Indiana Biodiesel Consumption Capacity

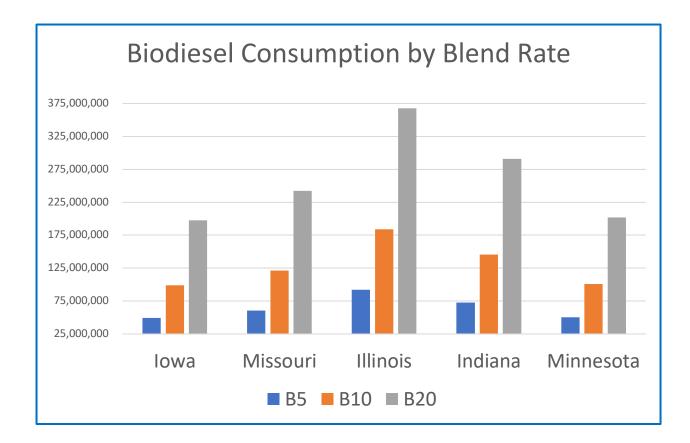
Indiana is a moderately populated state that consumes an outsized amount of diesel fuel. It's ranks 17<sup>th</sup> in population with 6.7 million people. Geographically Indiana is a relatively small state, ranking 38<sup>th</sup> at ~36,000 square miles.

Despite these figures, only nine states consume more diesel for transportation.<sup>7</sup> As pointed out in further detail below, this is due to Indiana's web of interstate highways. According to 2017 EIA data, Indiana consumes 30,259,000 barrels of diesel each year for transportation. This is 1.27 billion gallons of diesel. That number does not include the 52 million gallons of off-road diesel and 130 million gallons of farm diesel. When those three categories are summed, Indiana consumes nearly 1.5 billion gallons yearly.

The data clearly shows that Indiana could support a robust biodiesel industry to displace some of the petroleum diesel consumed in state. Below is a table that shows similar states' diesel consumption. Only Illinois consumes more diesel, and that state has nearly double the population.



Indiana would need sizable increases of biodiesel production to support increased biodiesel blend rates. Below is a chart showing what each states' consumption of biodiesel would be at blends of 5%, 10% and 20%. If Indiana achieved a 5% blend across the state, 72 million gallons of B100 would be consumed. A B10 blend would consume 145 million gallons, and a B20 blend 290 million gallons. The state would need the equivalent of two new Louis Dreyfus plants to meet that demand.



Indiana has a large economy and proven demand for refined fuels. This bodes well for the opportunity to offset petroleum diesel with a cleaner, renewable fuel that supports the state's agriculture economy.

# **Transportation Sector**

The Indiana Department of Transportation reports that there are 12,000 miles of Interstate, US and State routes within the state. The "Crossroads of America" is crisscrossed by interstate highways. This many miles of roads create the demand for a lot of fueling stations.

EIA reports that there are nearly 2,700 gas stations in the state. The National Biodiesel Board's "<u>Biodiesel Retailers</u>" map show 71 retailers offering biodiesel blends above B5 in the state of Indiana. That is approximately 3% of stations offering biodiesel blends. Biodiesel availability at the retail level is seemingly rare.

The truck stop industry offers a sharp contrast. Large truck stops have discovered how to benefit financially from biodiesel. Love's Truck Stop has 22 locations in Indiana, and 14 of them self-report offering B12 blends or higher. Pilot Flying J has 38 trucks stops in state, with 25 of them reporting blends of B10 or higher. TA Travel Centers has 13 locations in Indiana, with 11 of them offering B10 blends or higher. This prevalent use proves that biodiesel blends work in the diesel industry, and could be more widespread with more knowledge about the product and its pricing.

# Liquid Fuels Infrastructure

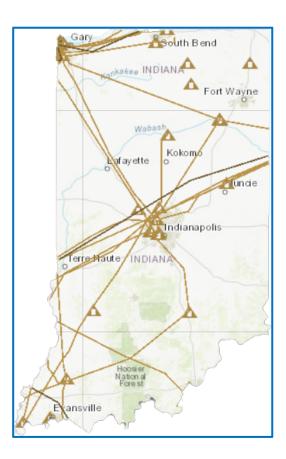
Indiana is home to a series of petroleum assets responsible for providing refined products. This tangle of pipelines and petroleum terminals influence product price and availability. It is critical to understand this infrastructure to determine where biodiesel fits, and what challenges must be overcome before widespread availability is achieved.

Indiana is home to two oil refineries. The Whiting Refinery in northwest Indiana is the largest inland refiner in the country, as well as one of the largest overall. It is owned by BP and has capacity to refine 450,000 barrels per day (bpd) of crude. CountryMark Cooperative operates a 30,000-bpd refinery in Mount Vernon.

There are at least 29 oil terminal locations located around the state. The map on the left below shows the locations of these refineries and the terminals. The map on the right shows the pipelines that move refined products around the state.

Twenty-nine terminals were contacted to determine if they offered biodiesel for blending and only eight confirmed they did. CountryMark, Heritage Petroleum, HWRT Oil and US Oil stated they had biodiesel on site for blending.





### Federal Biodiesel Policy

Biodiesel pricing and availability is influenced greatly by federal policy. A brief summary of the Renewable Fuels Standard (RFS) and the biodiesel Blenders Tax Credit (BTC) will be provided, followed by a discussion of their impacts. Below is a summary of the RFS from Minnesota's "*Annual Report on Biodiesel*:

In 2007 the federal Energy Independence and Security Act (EISA) was passed by Congress and signed by President George W. Bush, revising the Renewable Fuel Standard (RFS, now RFS2) that was already in place. This law requires refiners and/or importers of petroleum (also known as obligated parties) to blend increasing volumes of biofuels on an annual basis. Volumes (Renewable Volume Obligations or RVOs), set by Congress and modified by the USEPA, are divided proportionally among all obligated parties, giving each obligated party a total amount of biofuel that they will need to show compliance for blending.

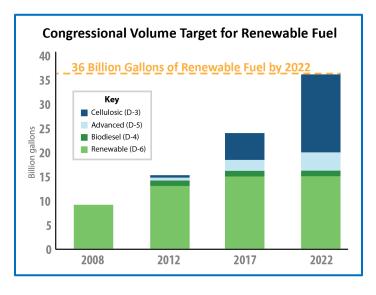
Every gallon of biofuel produced that qualifies for RFS2 carries with it a Renewable Identification Number, or RIN. The RIN is used by the obligated party to show compliance with RFS2. RINs can be used (or "retired") by an obligated party in two ways:

1. Gallons of biofuel are blended with petroleum fuels. Once biofuel is blended, the RIN can be "separated" from the fuel with which it is associated and retired.

2. RINs can be purchased in the RIN market. Obligated parties that blend more fuel than their obligation requires, or fuel distributors that are not refiners and/or importers of petroleum (also referred to as "third party blenders"), can sell RINs into the market after fuel is blended.

In the second case above, the value obtained by selling the RIN represents another income stream for the obligated party who has met their obligation, or a third-party blender who has no obligation under RFS2.<sup>8</sup>

The RFS has succeeded in increasing the amount of ethanol and biodiesel produced and consumed, even if failing to meet some Congressionally set targets. The chart to the right shows the law's original targets for gallons of renewable fuel to be utilized through 2022, peaking at 36 billion gallons in 2022.



RINs have helped lower the price of biodiesel to the consumer. Obligated parties can create excess RINs by blending more fuel than the law directs them to. Nonobligated parties can generate RINs by blending biofuel. These RINs can then be sold to obligated parties who need them to satisfy their compliance. This value can be passed on to the consumer in the form of lower prices, increasing demand for biofuels in contrast to higher priced petroleum diesel.

Future enforcement of the RFS, and adherence to the volumes prescribed by statute, will have major influences on the price of RINs. Administration decisions to increase RVOs will likely lift RIN prices, providing a market signal to blend more biofuel. Conversely, actions such as granting Special Refinery Exemptions (SREs) have a negative effect on RINs. The granting of SREs released some obligated parties from their RFS compliance. This reduced demand for RINs, lowered their price, and in effect raised the price of biodiesel.

<sup>&</sup>lt;sup>8</sup> Minnesota Department of Agriculture. (2020) *Annual Report on Biodiesel* Retrieved from: <u>https://www.leg.state.mn.us/docs/2020/mandated/200254.pdf</u>

The Biodiesel Blenders Tax Credit, passed in 2005, is the other legislation impacting pricing. The Tax Credit allows blenders of record to claim a \$1 federal tax credit for every gallon of biodiesel they mix with petroleum diesel. Like the RIN, this lowers the price of the biodiesel blends to the end user, as the value gets passed down from the blender through the fueling market chain. The BTC has lapsed repeatedly. Congress allowed the law to expire, only to pass it retroactively several times. In late 2019, Congress passed and the President signed a new BTC extension into law. It made the law active retroactively to 2018 and extended it through December 31, 2022.

The three-year extension of the BTC combined with the RFS makes the next three years critical to biodiesel expansion efforts. There has never been this long of a period of Tax Credit certainty for the industry to build upon.

### State Biodiesel Policy

State policy makers have passed laws to incent biodiesel's consumption and production in their states. They've done so to add value to agriculture commodities, to increase rural economic development, to improve air quality and lower their dependence on foreign oil. We will look at four states efforts: Minnesota, Iowa, Illinois and California.

Minnesota has been a pioneer in state biofuels policy. It passed and implemented the first biodiesel mandate in the country in 2002. The B2 mandate was implemented in 2005. Minnesota then amended its statute to slowly increase the blend levels to B5 in 2009, B10 in 2012 and B20 in 2015<sup>9</sup>. Increased levels of biodiesel increase the fuel's cloud point, so B20 blends are only used in the months from April to September.

Minnesota's mandate created increased consumption in the state, leading to increased biodiesel production. Minnesota produced less than 20 million gallons a year of biodiesel in 2005, when the B2 mandate was implemented<sup>10</sup>. Minnesota Department of Agriculture (MDA) data show name plate capacity now over 87 million gallons. MDA published an economic impact analysis on the state's biodiesel industry in 2017. The report highlighted biodiesel's economic impact of \$1.7 billion and estimated direct and indirect jobs supported by biodiesel to be nearly 5,400. MDA estimated that for every one million gallons of biodiesel production, there is \$22.8 million in economic output created and 73 jobs supported.

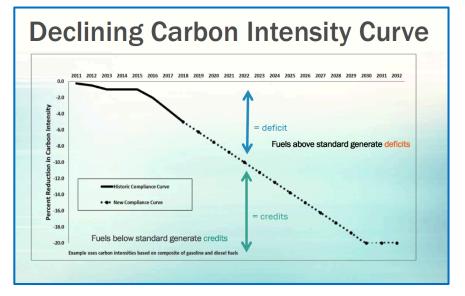
Iowa is the country's leading biodiesel producer with 445 million gallons of name plate capacity. The state has passed tax incentives to spur biodiesel consumption. Iowa currently offers a refundable income tax credit to retailers who sell biodiesel blends. Starting on January 1, 2018, the credit is 3.5 cents for biodiesel blends between B5 and B10, and 5.5 cents for blends of B11 or higher<sup>11</sup>. These credits are in place through 2024. Iowa's tax incentives were first passed in 2006. Since that time, the number of gallons with blended fuel reported to the Iowa Department of Revenue has grown from ~80 million gallons to over 360 million gallons in 2016.

Illinois is one of the nation's largest consumers of biodiesel. This level of consumption has been driven by tax policy. Illinois applies their 6.25% state sales tax to on-road diesel purchases. However, biodiesel blends of B11 and higher have a sales tax exemption. In 2003, Illinois enacted a law exempting biodiesel blends from the state's sales tax. The law has been extended several time and is now set to expire in 2023. This time frame has seen Illinois grow from very low consumption to having an overall blend rate of 11.4% statewide, according to the Illinois Department of Revenue's data. This equates to 160 million gallons of B100.

Finally, California has implemented a far more ambitious program to remake their energy industry. The Low Carbon Fuel Standard (LCFS) was adopted by the California Air Resources Board (CARB) in 2009. The effort's goal is to achieve a 10% reduction in carbon intensity (CI) of gasoline and diesel by 2020, and a 20% reduction by 2030, using 2010 as the baseline.

<sup>12</sup>The graph below, from the CARB homepage, shows current and future reduction of CI for fuels based on 2010 data. The LCFS is similar to the RFS. Obligated parties need to meet annual reductions in the CI of their fuels. If they are unable to meet

those reductions internally, they can purchase credits. These credits are generated by other producers who produce and sell fuel with lower CI.



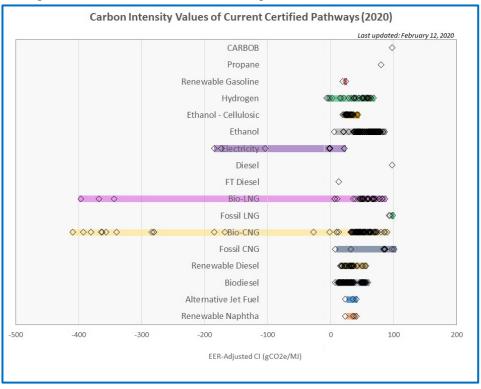
<sup>&</sup>lt;sup>9</sup> Laws of Minnesota 2008, chapter 297, article 1, section 51

<sup>&</sup>lt;sup>10</sup> Economic Impact of the Minnesota Biodiesel Industry, Minnesota Department of Agriculture, May 2017 Retrieved from www.mda.state.mn.us/renewable/biodiesel

<sup>&</sup>lt;sup>11</sup> Iowa Department of Revenue, Form IA 8864 Biodiesel Blended Fuel Tax Credit 41-149

<sup>&</sup>lt;sup>12</sup> California Air Resources Board (2020) *LCFS Pathway Certified Carbon Intensities* Retrieved from: <u>https://ww2.arb.ca.gov/resources/documents/lcfs-pathway-certified-carbon-intensities</u>

Biodiesel is a low carbon fuel and thus creates value in the LCFS. The chart below shows that CI scores for a range of fuels. The CI score for diesel is approximately 100, and you can see the range for biodiesel is between 8 and 57, depending on the feedstock and production process. The difference between the two carbon scores creates credits, which have monetary value. The February 2020 LCFS credit price was between \$185 and \$215 per metric ton.

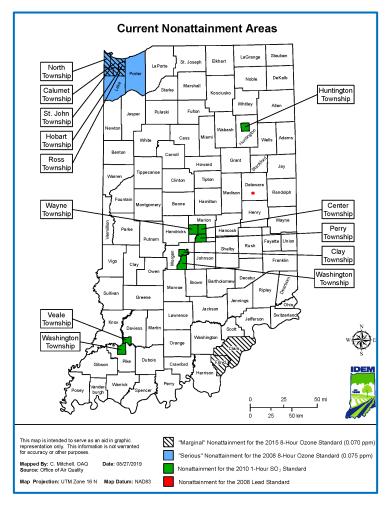


While the LCFS is complex, there are two important takeaways for biodiesel supporters. First, biodiesel creates value because of the low CI compared to petroleum diesel. Second, there is nearly full market share available. In contrast to a B5 or B20 blend, the LCFS wants to displace, and reward, as much low carbon fuel as possible.

# Environmental Impacts of Biodiesel

Biodiesel has positive impacts on air quality. Biodiesel blends emit less carbon dioxide, particulate matter, carbon monoxide, sulfur oxides, and significantly reduces greenhouse gas emissions<sup>13</sup>.

Indiana faces air quality problems. For example, 13 different townships are out of attainment for one or more air quality standards<sup>14</sup>. The map below shows that air quality problems are present throughout the state.



The Clean Air Act directs the United States Environmental Protection Agency (U.S. EPA) to set National Ambient Air Quality Standards (NAAQS), measuring pollutants that cause or contribute to air pollution. When states exceed the limits, they must create and execute a State Implementation Plan (SIP) to address the problem. NAAQS exist for six pollutants: carbon monoxide, particulate matter, lead, nitrogen dioxide, ozone, and sulfur dioxide. As noted above, biodiesel lowers

carbon dioxide, particulate matter, carbon monoxide and sulfur dioxide.

<sup>&</sup>lt;sup>13</sup> Environmental Protection Agency (2002) A Comprehensive Analysis of Biodiesel Impacts on Exhaust Emissions Draft Technical Report

<sup>&</sup>lt;sup>14</sup> Indiana Department of Environmental Management (2020) *Nonattainment Status for Indiana Counties* retrieved from: <u>https://www.in.gov/idem/airquality/2339.htm</u>

## Paths Forward

The Indiana Soybean Alliance requested this report to determine the feasibility of increased biodiesel production in the state. The preceding sections provided evidence that Indiana is well positioned to do that.

The Alliance may support such a goal, but still needs to determine the most appropriate way to do that. The sections most relevant to this discussion are the overviews of Federal and State Policy. Minnesota implemented a biodiesel mandate, Iowa and Illinois tax incentives and California a low carbon fuel standard. Any state effort should build upon the structure of the RFS and utilize the Federal Biodiesel Tax Credit.

There isn't a single correct answer to how Indiana should proceed in building a larger biodiesel industry. The state efforts highlighted in this report offer a starting point for consideration. However, even those states pursued many other avenues to increase production and consumption of biodiesel. Many soybean checkoff organizations have invested heavily in promoting biodiesel through targeted advertising, consumer awareness, targeted education opportunities and other permissible checkoff activities.

States with robust supportive legislation still invest in promoting the industry. Minnesota's mandate is still supported by the Minnesota Soybean Growers Association through education and promotion efforts. The reason for this investment is that B20 isn't the end of the road. If utilizing soy oil to support a B20 standard adds 63¢ a bushel to soybeans, farmers rightly ask how much they would benefit from 50% or 100% market share. Indiana has a legitimate opportunity to be one of the largest producers of biodiesel in the entire country. This would create more profitable farms, spur rural economic development, contribute to a healthier environment and add value to Indiana's agriculture community statewide.