

# Economic Impact of Biodiesel in Minnesota

## Executive Summary

---

### Minnesota Biodiesel Industry

Minnesota was the first state in the U.S. to mandate the use of biodiesel. In 2002, the Minnesota state legislature mandated that all diesel fuels sold in the state must contain at least 2 percent biodiesel (B2) by the year 2005 (MS§ 239.77 [BIODIESEL CONTENT MANDATE]). Since then, the mandate raised the blend level to 5 percent (B5) in 2009 and 10 percent (B10) in 2012. The mandate is scheduled to increase to 20 percent (B20) in 2018.

The Minnesota biodiesel mandate became a catalyst for Minnesota's biodiesel industry, which emerged to fulfill the initial B2 mandate, or 16-million-gallon-a-year biodiesel volume requirement, and later grew into a 74-million-gallon-a-year industry.

Minnesota's current annual biodiesel production includes 33 million gallons of soy biodiesel and 41 million gallons of non-soy biodiesel from three production facilities. Soy biodiesel, which uses soybean oil as feedstock, makes up 45% of the total biodiesel production in Minnesota; and non-soy biodiesel, which uses other oils/fats/grease as feedstock, comprises 55% of the total.

Minnesota consumes 1 billion gallons of diesel fuel a year, of which, 77 million gallons come from biodiesel. The state currently supplies 74 million gallons or 96% of its own biodiesel needs, and imports 3 million gallons or 4% from other states to fulfill the consumption demand. By 2018, when the B20 mandate comes into effect, Minnesota's annual biodiesel demand will reach 130 million gallons.

### Biodiesel Economic Impact Study

The Minnesota Department of Agriculture recently conducted an economic impact study to analyze the biodiesel industry's output and employment effects on the state economy. The study covered both soy biodiesel and non-soy biodiesel with a combined annual production capacity of 74 million gallons. The IMPLAN (Impact Analysis for Planning) economic input-output model is used in this impact analysis.

The economic impacts are measured to include the direct, indirect, and induced impacts. **Direct impact** represents the effect of biodiesel output. **Indirect Impact** represents the effect on all other economic sectors supporting the biodiesel industry. **Induced impact** represents the effect on all economic sectors due to the expenditures of new income generated by the direct and indirect impacts. **Total impact** is the sum of direct, indirect and induced impacts.

Current feedstock for Minnesota biodiesel production includes soybean oil, distillers corn oil, and other grease/fats/oils. Major production sectors analyzed in the biodiesel economic impact study include:

1. Soybean farming and processing;
2. Corn farming and processing;
3. Oil/fats/grease rendering; and
4. Biodiesel production/transesterification.



## Biodiesel Economic Impact on Minnesota's Economy

The economic impact is based on the 2016 biodiesel production of 74 million gallons, comprised of 33 million gallons of soy biodiesel and 41 million gallons of non-soy biodiesel.

Biodiesel production in Minnesota generates an economic “multiplier effect” that benefits many economic sectors, such as agriculture, manufacturing, transportation, wholesale and retail trade, services, finance, insurance, real estate, public utilities, and other. Each 1 million gallons of biodiesel production supports 73 jobs and contributes \$22.8 million in state-wide total economic output.

### Total Output Impact

- Total output impact includes direct, indirect, and induced impacts on all economic sectors due to biodiesel production.
- Total output impact is estimated at **\$1.7 billion**.

### Total Employment Impact

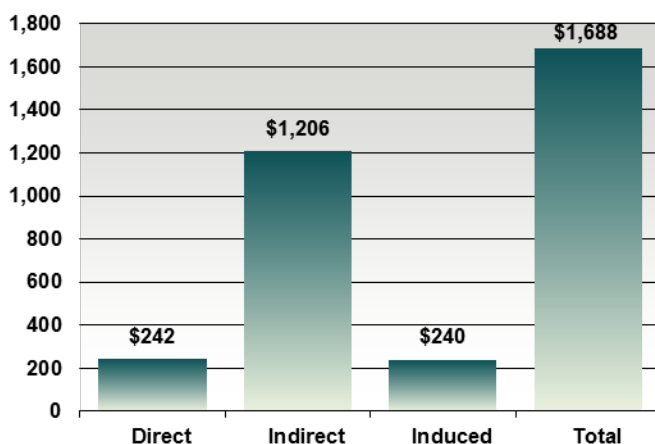
- Total employment impact represents the number of jobs in all economic sectors associated with biodiesel production, including direct, indirect, and induced impacts.
- Total employment impact is estimated at **5,397 jobs**.

### Total Economic Impacts – Summary Table

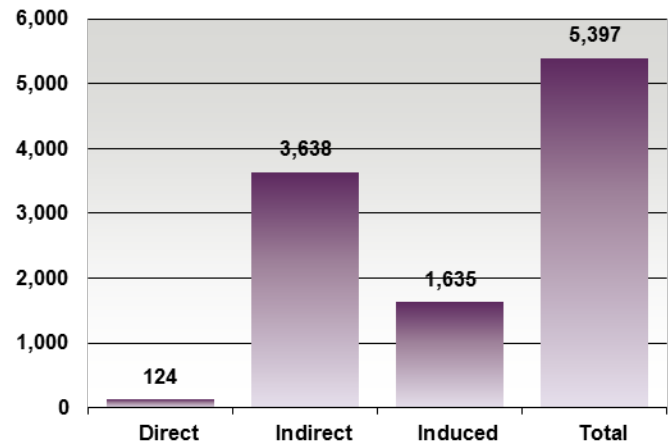
(Based on Minnesota 2016 Biodiesel production of 74 million gallons)

Economic Impacts	Output Impact (\$ Million)	Employment Impact (Number of jobs)
Direct Impact	\$241.92	124
Indirect Impact	\$1,206.28	3,638
Induced Impact	\$239.90	1,635
<b>Total Impacts</b>	<b>\$1,688.10</b>	<b>5,397</b>

Output Impact (\$ Million)



Employment Impact (Number of Jobs)



(The IMPLAN economic input-output model is used in this impact analysis, [www.implan.com](http://www.implan.com).)

⇒ Visit [Minnesota Biodiesel](http://MinnesotaBiodiesel.com) ([www.mda.state.mn.us/renewable/biodiesel.aspx](http://www.mda.state.mn.us/renewable/biodiesel.aspx)) for the full report.

In accordance with the Americans with Disabilities Act, this information is available in alternative forms of communication upon request by calling 651/201-6000. TTY users can call the Minnesota Relay Service at 711. The MDA is an equal opportunity employer and provider.