

Biodiesel's Benefits to Minnesota

Minnesota went down in history as being a leader in biodiesel by becoming the first state in the United States to mandate its use. The state started gradually with a 2 percent biodiesel requirement in 2005, increasing to 5 percent in 2009 and increasing again in 2012 to a 10 percent requirement during the state's warmest months of April through September, with 5 percent biodiesel being required during the coldest half of the year, October through March. That mandate states that in May of this year, 2018, that requirement will double to 20 percent during the six warmest months of the year.

According to a 2017 report by the Minnesota Department of Agriculture (MDA), this mandate has had a major impact on the state's economy.

First, it was an important milestone for the biodiesel industry. To fulfill the original 2 percent biodiesel mandate, the industry needed to produce 16 million gallons a year. That production number increased to 74 million gallons a year by 2017. The fact that this industry in Minnesota is able to produce all but 4 percent of the state's total needs (3 million gallons are imported annually from other states, according to the MDA), is a major benefit to the state's economy. The MDA notes that this year, when the 20 percent mandate takes effect, Minnesota will need about 130 million gallons per year to keep up with demand.

A study conducted by the MDA based on 2016 biodiesel numbers shows how the mandate has impacted not only the biodiesel industry, but also the many other business sectors impacted, such as agriculture, transportation, manufacturing, utilities and others.

The report shows that "each 1 million gallons of biodiesel production supports 73 jobs and contributes \$22.8 million in state-wide total economic output" (MDA). So for the year 2016 across all affected job sectors, the total employment impact is estimated at nearly 5,400 jobs, while the total financial output impact is estimated at \$1.7 billion.

Today, Minnesota is ranked at #10 in the U.S. for biodiesel production capacity, and produces 5 percent of the nation's total biodiesel. This is remarkable, especially when you consider that the United States is #1 in the world in regards to biodiesel production.

Second, the increase in biodiesel has had a strong positive impact on Minnesota's agriculture sector, most particularly the soybean industry. According to the United States Department of Agriculture (USDA), soybeans are the second largest crop grown in Minnesota, helping the state to rank third in overall soybean production in the nation, with 394 million bushels being produced from 7.5 million acres in 2016. Half of the annual soybean crop in the state is used each year to create soy oil. That equates to about 2.23 billion pounds of soy oil and of that, about 12 percent is processed into soy biodiesel, according to the USDA. That means about 5.6 percent of the state's annual soybean production is processed into soy oil for biodiesel production.

That all equates to more jobs in this industry as well, with more than 1,500 jobs in the state being in soybean production and processing.

Soybean producers aren't the only ones in the agriculture field benefitting from increased biodiesel production, however. Corn producers are also seeing benefits because corn oil is used as feedstock for biodiesel production. Corn is the #1 crop in Minnesota, and Minnesota is the fourth largest corn producer in the nation. Production reached a record in the state in 2016, with more than 1,500 million bushels harvested. Thirty-six percent of that is used for processing, and about 29 percent of the state's distillers corn oil is made into biodiesel.

Yet another portion of the agriculture field impacted by increased biodiesel use is that of the livestock farmers and the rendering businesses that produce fats, oils and greases that are used as feedstock as well.

Finally – and most importantly – one of the main benefits of biodiesel that impacts the most people is that it is a locally-grown, renewable resource that reduces the state's use of fossil fuels and improves air quality, giving us a healthier environment.

The Environmental Protection Agency (EPA) has reported that biodiesel blends can reduce greenhouse gas emissions by more than 50 percent, and that the current use of these blends in the state of Minnesota compare to removing 128,000 vehicles from use each year. The EPA notes that with the increase to a 20 percent biodiesel mandate later this year, that number would increase to 200,000 vehicles.

The American Lung Association adds that in 10 years of biodiesel mandates being in place in Minnesota, more than 7.4 billion pounds of carbon dioxide have been reduced from our atmosphere. Also important to note is that biodiesel emissions have decreased levels of

hydrocarbons and nitrated compounds, which have been noted to potentially cause cancer, according to BioCube Corporation.

Yet another benefit illustrated by the Alternative Fuels Data Center is that biodiesel is safer to handle, store and transport than petroleum diesel because it is much less combustible.

It isn't difficult to see the impact that the increased biodiesel use in the state of Minnesota has had on the well-being of the state as a whole, from the strong economic impact to the health and wellness factors of moving toward a renewable option. It will be exciting to see what the increased mandate in 2018 brings to the future of Minnesota and its residents!