

## **ECONOMIC IMPACT OF THE 2021 IOWA BIOFUEL STANDARDS LEGISLATION**

Prepared for the Iowa Renewable Fuels Association

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The Iowa Biofuel Standards legislation is an agricultural focused policy that expands the use of biofuels produced in Iowa from feedstocks grown by Iowa farmers. The legislation will increase the use of ethanol and biodiesel in Iowa and supports increased retail infrastructure funding for higher biofuel blends while protecting the Iowa taxpayer. The legislation calls for fuel specifications that drive demand of higher biofuel blends such as B20 and E15. In addition, by reforming existing biofuel tax credits, this legislation provides significant sources of revenue for the underfunded, overutilized Renewable Fuels Infrastructure Program (RFIP).

Iowa is the nation's leading ethanol and biodiesel producer. Iowa's 41 operating ethanol plants produced 3.7 billion gallons in 2020 or 27 percent of U.S. ethanol output, and Iowa's 9 operating biodiesel plants produced 351 million gallons representing 20 percent of national biodiesel production. The biofuels industry is a significant contributor to economic growth in Iowa by adding nearly \$4 billion to state GDP, supporting more than 37,000 jobs in all sectors of the economy, and generating \$1.8 billion in household income.

The economic impact of the Iowa Biofuel Standards legislation was estimated by calculating the expenditures for producing ethanol and biodiesel associated with the additional volume of biofuel that will be generated by the legislation above normal growth currently anticipated. These volume estimates were provided by the Iowa Renewable Fuels Association and the operating costs for ethanol and biodiesel were estimated in the recent study of the contribution of the biofuels industry to the Iowa economy.<sup>1</sup> Iowa biofuel producers spent \$1.61 on feedstocks, goods and services to produce a gallon of ethanol and \$2.89 to produce a gallon of biodiesel in 2020. Spending associated with renewable

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<sup>1</sup> ABF Economics. Contribution of the Renewable Fuels Industry to the Economy of Iowa. January 28, 2021

fuels production circulates throughout the entire Iowa economy and stimulates aggregate demand, supports the creation of new jobs, generates additional household income, and provides tax revenue for state and local governments. The industry impact study provided estimates of the GDP, employment and income contribution of the Iowa ethanol and biodiesel industries in 2020. We calculated the impacts for each of these measurements on a dollar per expenditure basis (e.g., GDP, income, or jobs per dollar of operating expenditures for ethanol and biodiesel) and applied these estimates to the spending associated with increased production of ethanol and biodiesel.

## Results

The Iowa Biofuel Standards legislation will increase these impacts by expanding use and production of ethanol and biodiesel, thereby stimulating investment in biofuels infrastructure. It is important to note that the impacts below are based solely on the growth in Iowa biofuels production expected to result from this legislation and not on underlying growth already expected between now and 2026. The impacts are summarized in Table 1. Specifically, over the first five years of the legislation, the Iowa Biofuel Standards legislation will:

- Increase ethanol demand and production 117 million gallons and biodiesel production 203 million gallons between 2022 and 2026.
- Provide grants to Increase infrastructure spending for higher blends of ethanol by \$7 million per year over historic funding levels between 2022 and 2026.
- Add \$457 million to Iowa GDP by 2026. The ethanol industry will provide \$116 million while biodiesel accounts for \$341 million.
- Support more than 3,500 additional jobs in all sectors of the Iowa economy by 2026.
- Generate an additional \$549.8 million in household income for Iowans between 2022 and 2026.
- Provide an estimated \$182.6 million in additional state and local tax revenue over the five-year period. When the cost of the legislation in terms of tax credits and grants for infrastructure are factored into the analysis, the net benefit to Iowa taxpayers amounts to \$235.2 million between 2022 and 2026.

Table 1  
Economic Impacts of the Iowa Biofuel Standard Legislation 2022-2026

<b>ETHANOL ASSUMPTIONS</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>5-Year</b>
Additional Ethanol Production (Mil gal)	18.0	20.9	23.7	26.2	28.5	117.3
Tax Credit (Mil \$)	-\$1.2	\$0.2	\$1.4	\$2.4	\$3.2	\$6.0
Grants for Infrastructure (Mil \$)	\$7.0	\$7.0	\$7.0	\$7.0	\$7.0	\$35.0
<b>ETHANOL ECONOMIC IMPACT</b>						
GDP (Mil 2020\$)	\$20.9	\$43.5	\$65.6	\$90.0	\$116.5	
Jobs	220	458	690	947	1,226	
Income (Mil 2020\$)	\$9.9	\$20.6	\$31.1	\$42.6	\$55.2	\$159.4
State & Local Tax Rev (Mil \$)	\$3.1	\$6.4	\$9.6	\$13.2	\$17.1	\$49.5
Legislation Cost (Mil\$)	\$5.8	\$7.2	\$8.4	\$9.4	\$10.2	\$41.0
Net Benefit (Mil \$)	-\$2.7	-\$0.8	\$1.2	\$3.8	\$6.9	\$8.5
<b>BIODIESEL ASSUMPTIONS</b>						
Additional B100 Production (Mil gal)	26.8	26.0	50.4	50.1	49.8	203.1
Tax Credit (Mil \$)	-\$10.7	-\$10.8	-\$23.9	-\$24.1	-\$24.2	-\$93.6
<b>BIODIESEL ECONOMIC IMPACT</b>						
GDP (Mil 2020\$)	\$45.5	\$89.0	\$173.4	\$257.2	\$340.6	
Jobs	314	614	1,196	1,774	2,349	
Income (Mil 2020\$)	\$19.6	\$38.4	\$74.7	\$110.9	\$146.8	\$390.4
State & Local Tax Rev (Mil \$)	\$6.7	\$13.1	\$25.5	\$37.8	\$50.1	\$133.2
Legislation Cost (Mil\$)	-\$10.7	-\$10.8	-\$23.9	-\$24.1	-\$24.2	-\$93.6
Net Benefit (Mil \$)	\$17.4	\$23.9	\$49.4	\$61.9	\$74.3	\$226.8
<b>COMBINED IMPACT</b>						
Production (Mil gal)	44.8	46.9	74.0	76.3	78.3	320.4
Tax Credit (Mil \$)	-\$11.8	-\$10.6	-\$22.5	-\$21.6	-\$21.0	-\$87.5
Grants for Infrastructure (Mil \$)	\$7.0	\$7.0	\$7.0	\$7.0	\$7.0	\$35.0
<b>COMBINED ECONOMIC IMPACT</b>						
GDP (Mil 2020\$)	\$66.4	\$132.6	\$239.0	\$347.2	\$457.1	
Jobs	534	1,072	1,886	2,721	3,575	
Income (Mil 2020\$)	\$29.5	\$59.0	\$105.8	\$153.5	\$202.0	\$549.8
State & Local Tax Rev (Mil \$)	\$9.8	\$19.5	\$35.1	\$51.0	\$67.2	\$182.6
Legislation Cost (Mil\$)	-\$4.8	-\$3.6	-\$15.5	-\$14.6	-\$14.0	-\$52.5
Net Benefit (Mil \$)	\$14.6	\$23.1	\$50.6	\$65.7	\$81.2	\$235.2

## **State and Local Tax Revenue Projections**

It is important to note that GDP and jobs typically are not measured as averages over time, but at a specific point in time. For example, GDP grows over time, therefore we say that because of the increased purchases of goods and services to produce biofuels resulting from this legislation, GDP in 2026 will be \$457 million higher than would be the case if biofuels production had not increased.

By studying the increases in GDP resulting from this legislation, we can estimate the impact on Iowa state and local tax revenue. There is a correlation between GDP and tax revenue. Simply put, as the economy grows, tax revenue from all sources – personal, sales, and corporate – also will grow. State tax revenue calculations are complex and vary from state to state with different tax laws. Instead our estimate of the impact of the Iowa Biofuel Standards legislation was made by calculating the ratio of state and local tax revenue to GNP at the national level for 2020 as reported by the Bureau of Economic Analysis and applying this ratio (14.7 percent) to our estimate of Iowa GDP growth resulting from the legislation. Using this method, the Iowa Biofuel Standards legislation is expected to boost state and local tax revenue by over \$180 million over the five-year analysis period. Taking into account increased tax revenue and the savings from biofuels tax credit revisions, this legislation will provide a large net benefit to Iowa taxpayers of around \$235 million over five years.