

BIOFUELS AND BIORENEWABLES



IOWA'S BIOSCIENCE INDUSTRY ADVANTAGES

Iowa places your business in the center of a dynamic bioscience industry cluster of over 1,200 contributing companies. In 2018, Iowa's biofuels industry added \$5.0 billion to the state's economy, generated \$2.5 billion in new household income and created and supported over 48,000 jobs.



Consider some of the facts making Iowa more attractive than ever:

- Iowa's pro-business government works to help bioscience businesses grow through a variety of programs offering direct financial assistance, tax credit programs – including a refundable, R&D tax credit and bioscience job training funds.
- Iowa is home to three public universities – the University of Iowa, Iowa State University and University of Northern Iowa – world-renowned for dynamic research capabilities in the plant, animal and human biosciences. The universities leverage over \$1 billion from external funding, including research grants, on an annual basis.
- In 2017, TEconomy Partners, LLC reported Iowa's bioscience industry continues to be a significant part of the state's economy and is positioned for greater expansion.
- Iowa offers the first-of-its-kind in the nation, Renewable Chemicals Production Tax Credit program.

BIOECONOMY PLATFORM

Iowa is focused on the use of biomass as feedstocks for the production of a broad range of industrial bio-based products including fuels, chemicals, polymers and materials. Iowa leads the nation in the availability of biomass and offers the most robust industrial biotechnology infrastructure available in the U.S. This platform includes two primary subcomponents: advanced biofuels development and value-added biobased chemicals, polymers and materials.

Iowa Centers that Support Research and Commercialization

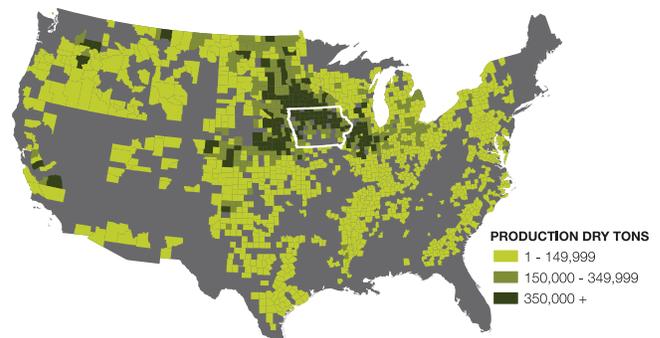
Ames Laboratory, Center for Biorenewable Chemicals, BioCentury Research Farm, Center for Crop Utilization Research, Center for Bioprocessing and Biocatalysis, BioEconomy Institute, Biobased Industry Center, Center for Bioplastics and Biocomposites.

ACCESS TO RAW MATERIALS

Iowa provides the nation's second-largest supply of biomass with the ability to harvest 14.4 million dry tons of biomass per year (total cellulosic and crop biomass.)

2040 BIOMASS RESOURCES

Basecase - All Energy Crops, Ag Residues, \$60/Dry Ton



Source: U.S. Department of Energy. 2016. U.S. Billion-Ton Report: Advancing Domestic Resources for a Thriving Bioeconomy

IOWA ECONOMIC DEVELOPMENT AUTHORITY

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ETHANOL

- Iowa leads the nation in ethanol production with 43 operating ethanol plants that have a capacity of over 4.5 billion gallons. (Iowa Renewable Fuels Association, 2020)
- Iowa accounts for 26% of total U.S. ethanol production. (EIA, 2017)
- Annual ethanol production increased by 89% from 2000 to 2018, from 440 million gallons in 2000 to 4.4 billion gallons today. (Iowa Renewable Fuels Association, 2020)
- Iowa's ethanol industry produced approximately 335 million bushels of distillers grains in 2018, the highest by any state. (Iowa Corn Growers Association)

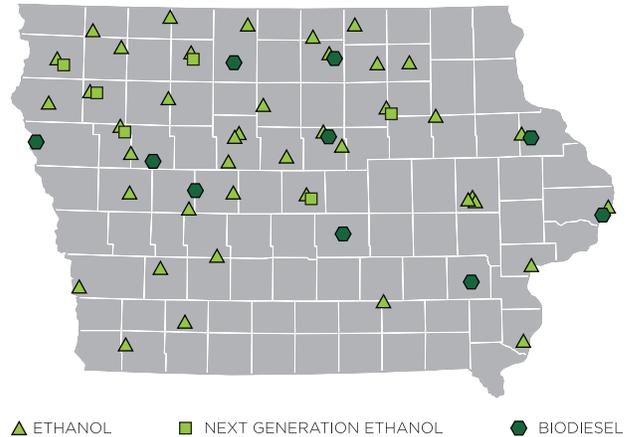
BIODIESEL

- Iowa is first-in-the-nation in biodiesel production with 10 biodiesel refineries producing a combined capacity of approximately 428 million gallons. (EIA, 2018)
- Iowa has production capacity to produce over 23% of the total U.S. biodiesel capacity. (EIA, 2018)
- Biodiesel production increased from 25,000 gallons to 428 million gallons annually from 2005 to 2018. (Iowa Renewable Fuels Association & EIA, 2018)
- Iowa offers a tax credit for biodiesel producers. Producers are eligible to receive a refund on the amount of sales or use tax paid during the production of biodiesel, up to 2 cents per gallon for the first 25 million gallons.

COMPANIES AT WORK IN IOWA



ETHANOL AND BIODIESEL FACILITIES



Source: Iowa Renewable Fuels Association, 2020

IOWA HAS THE RIGHT CHEMISTRY

Iowa's business climate has never been more favorable. Iowa has one of the lowest costs of doing business in the nation, is perfectly positioned with its central location and has a diversified and robust economy. Companies operating in Iowa benefit from a business-friendly state government, business-minded tax incentives and a skilled and productive workforce within a right-to-work state.

To learn more about why Iowa is the right location for business, contact the Iowa Economic Development Authority by calling **+1.515.348.6200** or visit **iowaeda.com**.

For more information on the Iowa bioscience advantage, contact the Iowa Economic Development Authority (IEDA) opportunities@iowaeda.com | **+1.515.348.6200** | iowaeda.com