

Iowa

Iowa is a national leader in the development of advanced biofuels. The U.S. Department of Energy (DOE)-supported POET-DSM biorefinery in Emmetsburg leverages the state's extensive biomass resources and existing bioenergy infrastructure to produce advanced biofuels.

Advanced biofuels produced from excess post-harvest waste help maintain soil health, create another income stream for rural communities, and improve energy security for Iowa.



Economy

Iowa spent **\$8.2 billion** on petroleum-based transportation fuels in 2013. Additional production of domestic biofuels could **keep more of those dollars within the state** to stimulate economic growth and add to the **43,000+ jobs** in green goods and services in Iowa.



Energy

Iowa is the **leading ethanol-producing** state in the nation (84.0 million barrels in 2014) and has the second-largest **biodiesel production** capacity (6.7 million barrels in 2014). **Excess crop waste** can be used to further reduce Iowa's **85.2 million** barrels of petroleum consumption (2013).



Environment

In 2012, petroleum use in the Iowa transportation sector released **18.6 million metric tonnes of carbon dioxide**. On a life-cycle basis, advanced biofuels can **reduce greenhouse gas (GHG) emissions by $\geq 50\%$** compared to petroleum—helping to reduce environmental impacts.



Feedstocks

Iowa's first-generation biofuel facilities can be upgraded to convert the state's **13.8 million metric tonnes of corn stover** into advanced biofuels and high-value products. This technology is being demonstrated in **Emmetsburg, Iowa**, at the commercial-scale **POET-DSM integrated biorefinery**.

Strategic policies and investments help *bridge the gap* between promising research and large-scale production of advanced biofuels.

Iowa recognizes the long-term environmental and economic benefits of developing advanced biofuels by encouraging **biofuel use** and **infrastructure development** through grants and tax credits.

The **Iowa State University BioCentury Research Farm (BCRF)** is an integrated research and demonstration facility. DOE has supported research at the facility to stabilize bio-oil fractions for insertion into petroleum refineries.

Researchers at DOE's **Ames Laboratory** conduct research to accelerate the sustainable production of renewable transportation fuels and are developing nanomaterials to enhance biofuel production.

Iowa's Integrated Biorefinery *

Operated by	POET-DSM
Location	Emmetsburg, Iowa
Job creation	56 permanent, 300 temporary
Primary products	Cellulosic ethanol
Annual capacity	Up to 25 million gallons of ethanol
Environmental benefit	60% GHG reduction vs. gasoline
Feedstock	Agricultural waste (corn stover)

* Developed with the support of approximately \$100 million in investments and research from DOE

Some of the richest farmland in the nation can provide 13.9 million metric tonnes of locally sourced, cellulosic feedstocks annually.



Existing non-cellulosic ethanol facilities can be upgraded to utilize non-food based feedstocks and contribute to advanced biofuels production.*



Developing in-state resources reduces dependence on imported petroleum-based fuels and products.



State policies recognize the social, economic, and environmental benefits of investments in biofuels.



* Iowa ranks 1st (3.7 billion gallons/year) among 25 ethanol producing states in the U.S.

Why Iowa?



For more information on the economic benefits of biofuels for Iowa, visit:

eia.gov/state/analysis.cfm?stid=IA
energy.gov/eere/bioenergy/about-bioenergy-technologies-office-growing-americas-energy-future-replacing-whole
acore.org/files/pdfs/states/iowa.pdf (based on 2011 survey by the Bureau of Labor Statistics)

For more information on Iowa biomass resources and environmental benefits, visit:

epa.gov/otaq/fuels/renewablefuels/documents/420f12078.pdf
eia.gov/environment/emissions/state/state_emissions.cfm
eere.energy.gov/bioenergy/pdfs/billion_ton_update.pdf, maps.nrel.gov/biofuels-atlas

For more information on Iowa clean energy initiatives and DOE partnerships, visit:

afdc.energy.gov/laws/all?state=IA, biocenturyresearchfarm.iastate.edu/
ameslab.gov/techtransfer/biofuels
energy.gov/eere/bioenergy/thermochemical-conversion
energy.gov/eere/bioenergy/financial-opportunities
energy.gov/eere/bioenergy/poet-dsm-project-liberty
U.S. ethanol production: eia.gov/state/seds/sep_prod/pdf/P4.pdf
eia.gov/biofuels/biodiesel/production/, eia.gov/petroleum/ethanolcapacity/