



MARQUIS

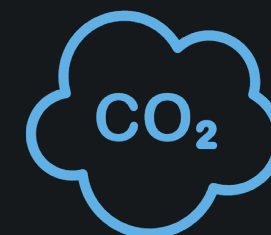


CORN: THE **VALUE-ADDED** CO-PRODUCTS DERIVED FROM OUR CORN INPUTS.

FROM ONE NON-EDIBLE
BUSHEL OF CORN WE ARE ABLE
TO PRODUCE...



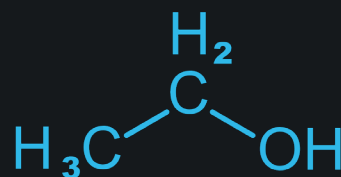
1 BUSHEL (BU)
CORN = 56 LBS



CARBON DIOXIDE
19 LBS / BU



PRO CAP GOLD
1.1 LBS / BU



ETHANOL
19.1 LBS / BU



DISTILLERS CORN OIL
1.1 LBS / BU

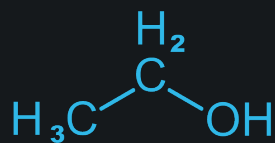


DDGS
12.4 LBS / BU

**FEED AND FUEL
SOLUTION.**
DECARBONIZING BOTH SECTORS



ETHANOL MARKET TODAY



ETHANOL



HIGH PROTIEN FEED



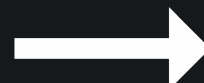
HYDROGEN



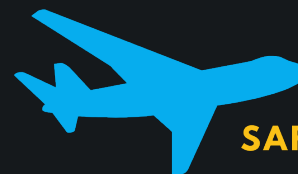
CO₂



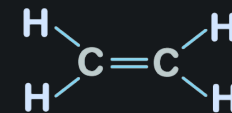
DISTILLERS CORN OIL



ETHANOL MARKET TOMORROW



SAF



ETHYLENE



BIO PLASTICS



RENEWABLE DIESEL



PRODUCTS FROM CO₂



CHEMICALS



RAIL



MARINE



WHAT'S AHEAD FOR US: PROJECT TIMELINE

INVESTMENTS MADE IN AMERICAN BIOENERGY

2024

2025

2025

2026

2027



CCS Carbon Capture and Sequestration



CHP Combined Heat and Power



CO₂ CO₂ Utilization



SOY Soy Crush Facility



SAF Sustainable Aviation Fuel



WE'RE INVESTING IN TOMORROW, TODAY.



CO₂ FROM THE ETHANOL INDUSTRY:

40,841,335 tons CO₂ per year

Size of Opportunities*	50 MGPY	137,000 tons
	150 MGPY	413,000 tons
	395 MGPY	1,000,000 tons

Combustion Gas: 600,000 Tons CO₂

Typical Constituent Concentrations

Component	CO ₂ Specifications	Presence
CO ₂	96.61%	Major constituent of CO ₂ stream
Oxygen	<0.05%	Indicator of atmospheric contribution
Nitrogen	<0.1%	Minor constituent of CO ₂ stream
Water Vapor	3.25%	Present in CO ₂ gas
Hydrogen sulfide (H ₂ S)	<0.002%	Not Expected to be Present
Hydrocarbons	60ppm	Primarily ethanol, acetic acid, ethyl acetate

Work yet to be done!



MARQUIS

Regulatory markets row crops

Hydrogen



LCA
Considerations

Energy Usage



Department of Energy

U.S. Department of Energy Awards \$118 Million to Accelerate Domestic Biofuel Production

JANUARY 26, 2023

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[Energy.gov](#) » U.S. Department of Energy Awards \$118 Million to Accelerate Domestic Biofuel Production

17 Projects Will Boost Production of Biofuels for Consumer and Freight Transportation in America, Support President Biden's Decarbonization and Climate Agenda

WASHINGTON, D.C. — The U.S. Department of Energy (DOE) today announced \$118 million in funding for 17 projects to accelerate the production of sustainable biofuels for America's transportation and manufacturing needs. The selected projects, located at universities and private companies, will drive the domestic production of biofuels and bioproducts by advancing biorefinery development, from pre-pilot to demonstration, to create sustainable fuels that reduce emissions associated with fossil fuels. Funding for this opportunity supports President Biden's goals to deliver an equitable, clean energy future, and put the United States on a path to achieve net-zero emissions, economy-



Marquis
1,197 followers
2d •

Marquis has been chosen as 1 of 17 recipients of grant funding to support our work in decarbonizing domestic biofuel production. Thank you to the [U.S. Department of Energy \(DOE\)](#) for helping us demonstrate how to unlock new paths to the decarbonization in biofuels - making energy from what is today considered waste.



Corn Ethanol 1.0

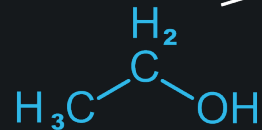
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FEED AND FUEL SOLUTION.

Corn Ethanol 2.0: Carbon Refining

E-Ethanol

Integrate LanzaTech gas fermentation into Marquis Industrial Complex

- Maximizes resources (land, water, fertilizer)
- Reduces carbon intensity
- Increases revenue / jobs



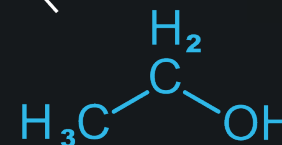
RENEWABLE DIESEL



CHEMICALS



SAF



ETHANOL
9.5 LBS / BU

LanzaTech

“We’re Investing in *Tomorrow,*
Today.”



MARQUIS
INDUSTRIAL COMPLEX