

Energizing the Economy

The economic recovery from the chaos created by the COVID pandemic has been frustratingly sporadic. But as mobility returns, demand increases, and consumer confidence grows, recovery is the reality. Indeed, evidence of the recovery can be seen in the ethanol industry's performance in 2021.

With record ethanol production capacity of 17.7 billion gallons, the industry once again reached 15 billion gallons of production. While that is still only an 86 percent utilization rate, it reflects significant growth from 2020. Total production rose 7.6 percent over the previous year, and both output and demand continue to grow—suggesting that 2022 will be higher still.

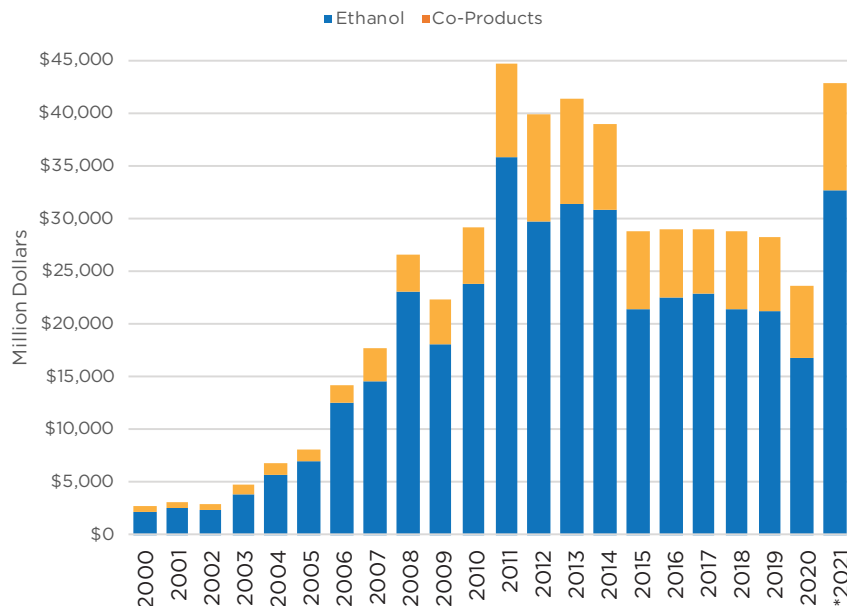
More importantly, profitability returned to the ethanol industry in 2021. Average ethanol prices in 2021 were more than 80 percent above average prices in 2020. Similarly, average prices for distillers grains were 27 percent higher than a year earlier. It is instructive to note this profitability in the ethanol industry occurred at a time of robust corn prices. Corn averaged \$5.93 per bushel in 2021, up 68 percent from 2020 as demand from China and other feed markets put upward pressure on prices. As U.S. ethanol producers processed more than 5.1 billion bushels of corn

into high octane fuel and feed products last year, they added more than \$30 billion to the farm economy, solidifying ethanol's role as the most important value-added market for farmers.

With rebounding production and higher production values, ethanol made an invaluable contribution to the national economy, adding \$52 billion to our national Gross Domestic Product, \$10.4 billion in federal, state and local taxes; and supporting more than 407,000 direct, indirect and induced jobs across the economy. Those jobs added \$28.7 billion in income for workers across the country.

As more and more are vaccinated around the globe and the economic recovery from COVID gains ground, the future for ethanol looks bright. We anticipate increased ethanol production and expanded market opportunities for ethanol in 2022. That's good news for consumers and farmers alike. Consumers will benefit from increased availability of lower-priced, lower-carbon ethanol. Farmers will continue to benefit from an important value-added market. And the economy will benefit from ethanol's job creation, tax revenue, and trade value with every gallon produced.

GROSS VALUE OF U.S. ETHANOL INDUSTRY OUTPUT

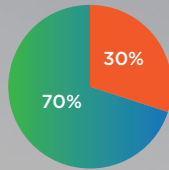


Source: RFA based on U.S. Dept. of Agriculture data * Estimated

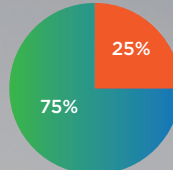
ETHANOL INDUSTRY WORKFORCE DEMOGRAPHICS

	Ethanol Industry	Petroleum Fuels Industry	National Workforce
Male	70%	75%	52%
Female	30%	25%	48%
55 & Over	23%	19%	23%
Unionized	5%	6%	6%
Military Veterans	18%	9%	6%
Average Hours/Week	39.8	41.5	34.8

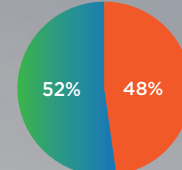
■ Male ■ Female



■ Male ■ Female



■ Male ■ Female



Sources: Energy Futures Initiative, National Association of State Energy Officials, U.S. Bureau of Labor Statistics

Ethanol's Value-Added Proposition

Based on average prices and product yields in 2021, a typical dry mill ethanol plant was adding approximately \$2.42 of additional value—or 40%—to every bushel of corn processed.

Corn Cost per Bushel

\$ 5.93



Value of Outputs per Bushel	
Ethanol	\$ 6.54
Distillers Grain	\$ 1.52
Corn Distillers Oil	\$ 0.45
TOTAL	\$ 8.51

Ethanol and the 2021 Economy

Direct Jobs..... 73,193
 Indirect/Induced Jobs 334,220
 Household Income \$28.7 billion
 GDP Contribution \$52.1 billion

