



THE CONTRIBUTION OF THE ETHANOL INDUSTRY TO THE AMERICAN ECONOMY IN 2004

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The ethanol industry is one of the most significant success stories in American manufacturing over the past quarter-century. From a cottage industry that produced 175 million gallons in 1980, the American ethanol industry has grown to include 74 manufacturing facilities with an annual capacity of more than 3.1 billion gallons per year. According to the Renewable Fuels Association 13 new plants representing an additional 500 million gallons of capacity currently are under construction and more are planned. Total ethanol production for 2004 is estimated at 3.5 billion gallons, 25 percent more than the 2003 record production of 2.8 billion gallons. An estimated 30 percent of all gasoline used in the United States will be blended with ethanol in 2004.

The ethanol industry provides a significant contribution to the American economy. The industry will spend nearly \$4.6 billion on raw materials, other inputs, goods and services to produce 3.5 billion gallons of ethanol during 2004. The largest share of this spending will be for corn and other grains used as the raw material to make ethanol. The ethanol industry will use nearly 1.3 billion bushels of corn in 2004, valued at \$3.2 billion. Ethanol production represents the third largest component of corn demand after feed use and exports and will account for 13 percent of total corn production this marketing season. In addition to providing a growing and reliable domestic market for American farmers, the ethanol industry also provides the opportunity for farmers to enjoy some of the value added to their commodity by further processing. Farmer-owned ethanol plants account for 40 percent of total industry capacity.

The remainder of the spending by the ethanol industry is for a wide range of inputs such as industrial chemicals; electricity, natural gas, and water; labor; and services such as maintenance, insurance, and general overhead. Spending for these goods and services represents the purchase of output of other industries. In addition, the construction of new ethanol plants results in spending for a wide range of goods and services. At an



estimated construction cost of \$1.40/gallon for a new dry mill ethanol plant, the 500 million gallons of capacity currently under construction represent the expenditure of an additional \$700 million by the ethanol industry in 2004.

The spending associated with current ethanol production and investment spending on new plant capacity will circulate throughout the entire economy several fold. Consequently this spending will stimulate aggregate demand, support the creation of new jobs, generate additional household income, and provide tax revenue for government at all levels. The impact of the ethanol industry on the American economy was estimated by applying the most appropriate final demand multipliers for output, earnings, and employment for the relevant supplying industry calculated by the U.S. Bureau of Economic Analysis (BEA) to the estimates of spending described above.¹

The following summarizes the major economic contribution of the American ethanol industry for 2004. These impacts are detailed by industry segment in Table 1.

- The combination of spending for annual operations and capital spending for new plants under construction will add more than \$15.3 billion to gross output in the American economy in 2004. Gross output represents the market value of an industry's production, including commodity taxes, and it differs from GDP.² Generally speaking, Gross Output is larger than GDP since it includes the value of intermediate goods and services, which are “netted out” of GDP. Reflecting this difference, the ethanol industry will add \$8.9 billion to the nation’s Gross Domestic Product in 2004.
- New jobs are created as a consequence of increased economic activity caused by ethanol production. The increase in gross output (final demand) resulting from ongoing production and construction of new

¹ The multipliers used in this analysis are the detailed industry RIMS II multipliers for the United States estimated by the Bureau of Economic Analysis, U.S. Department of Commerce.

² BEA description of Gross Output taken from www.bea.doc.gov/bea/dn2/readgo.htm. According to BEA accounts GDP was 58.2% of the value total gross output in 2001.



capacity supports the creation of more than 143,350 jobs in all sectors of the economy this year. These include almost 12,000 jobs in America's beleaguered manufacturing sector ... American jobs making ethanol from grain produced by American farmers.

- Increased economic activity and new jobs result in higher levels of income for American households. The production of ethanol will put an additional \$3.9 billion into the pockets of American consumers this year.
- The combination of increased output and GDP and higher income generates tax revenue for government at all levels. The full impact of the annual operations of the ethanol industry and spending for new construction will add \$1.25 billion of tax revenue for the Federal government and \$806 million for State and Local governments during 2004.

Table 1
Economic Contribution of the Ethanol Industry: 2004

	2004 Expenditure (Mil \$)	2004 Impact		
		Output (Mil \$)	Earnings (Mil \$)	Employment (Jobs)
Corn	\$3,175.9	\$8,759.5	\$2,054.5	89,263
Chemicals	\$279.5	\$844.1	\$201.0	4,967
Electricity	\$276.5	\$645.8	\$142.8	3,546
Natural Gas	\$311.5	\$1,034.3	\$179.9	4,607
Water	\$26.6	\$78.9	\$21.0	608
Labor	\$46.3	\$129.2	\$42.5	1,243
Maintenance	\$166.7	\$528.7	\$167.0	5,262
Insurance	\$94.1	\$270.6	\$94.3	3,046
Overhead	\$205.1	\$688.7	\$264.1	8,988
Subtotal	\$4,582.2	\$12,979.8	\$3,166.9	121,530
Construction	\$700.0	\$2,351.0	\$712.2	21,826
Total		\$15,330.7	\$3,879.1	143,356