

**Annual Local Economic Jobs, Corn, & Ownership Impacts for a Typical Locally Owned Ethanol Plant with 50 and 100 mgy Capacity.  
(7-9-2006)**

**I. Local Economic Impact of Jobs created by 50 and 100 mgy Ethanol Projects**

Assumptions:	50mgy	100mgy
1. Additional ongoing jobs created	34 jobs	45 jobs
2. Average wage is assumed to be \$35,000 / job		
Added Annual Payroll from Jobs Directly Created	\$1.190	\$1.575
Added Direct & Indirect Local Income (2.5 multiplier)	\$2.975	\$3.938

**II. Local Economic Impact on Farm Income from Ethanol Corn Purchases**

Assumptions:		
1. Added corn price/bushel due to increased demand	\$0.10/bu	\$0.20/bu
2. Million bushels of corn purchased by ethanol plant	\$18.5 mb	\$37.0 mb
Added Annual Direct Farm Income (\$ million/year pretax)	\$1.9 million	\$7.4 million
Added Direct & Indirect Local Income (2.5 multiplier)	\$4.8 million	\$18.5 million

**III. Local Economic Impacts from Local Ownership**

Assumptions:		
1. Ethanol Plant Costs	\$100 million	\$165 million
2. Percentage of Local ownership	75%	75%
3. Project is 50% debt financed	50%	50%
4. ROI assumptions	20%	30%
Added Income from Local Ownership (annual pretax)	\$7.5 million	\$18.6 million
Added Direct & Indirect Local Income (2.5 multiplier)	\$18.8 million	\$46.5 million

**IV. Combined Total Local Economic Impacts from Ethanol Plant**

Added Direct Annual Income from Ethanol Plant (pretax)	\$10.6 million	\$27.6 million
Added Direct & Indirect Local Income (2.5 multiplier)	\$26.5 million	\$69.0 million

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 Prepared by Mark A. Edelman, Ph.D., Professor of Economics and Extension Economist, Iowa State University. This study represents a preliminary analysis that has been conducted in a relatively short time frame to respond to a particular inquiry and utilizes simplified methods to provide an approximation of results. Such analyses are developed to demonstrate economic principles and general impacts. This analysis is not designed to provide precise measurements comparable to those that would result from a more in-depth research study of a specific project or that would result from use of more sophisticated economic models. The author has 30 years of experience in analyzing federal, state, and local government finance, economic development, and agricultural policy topics. He has conducted research on selected renewable energy issues and is an ethanol industry observer, investor, and board member. This analysis was conducted in response to a private sector inquiry, however it is being distributed to the public for educational purposes since it contains no proprietary or confidential information.

\* Note: Direct Economic Impacts include income and employment impacts directly attributable to the development project. Direct impacts include the project's payroll, returns to local ownership, and added income from local procurement of raw materials. The additional direct income and employment in turn induces additional spending that indirectly supports creation of addition jobs and income in the local region. The additional induced income and employment is referred to as indirect economic impacts and is often estimated by economists using employment multipliers. Employment multipliers typically vary from one sector to the next. While some sectors of the economy generate employment multipliers of 2.0 or less, most value-added agriculture sectors generate employment multipliers above this level. A multiplier of 2.5 is the assumed in this analysis.

\*\* The analysis is sensitive to the ROI assumed. Under current market price relationships, 50 to 100 mgy plants in the ethanol industry are experiencing returns significantly above the respective 20% to 30% levels, however many analysts expect current relationships to be a short term phenomenon as new structural equilibriums are achieved and as construction costs rise for new plants.