University of Nebraska - Lincoln
DigitalCommons@University of Nebraska - Lincoln

Cornhusker Economics | Agricultural Economics Department

12-19-2007

Local Economic Impacts of Ethanol Production

David J. Peters
University of Nebraska - Lincoln, dpeters2@unl.edu

Follow this and additional works at: http://digitalcommons.unl.edu/agecon_cornhusker

Part of the Agricultural and Resource Economics Commons

Peters, David J., "Local Economic Impacts of Ethanol Production" (2007). *Cornhusker Economics.* Paper 347.
http://digitalcommons.unl.edu/agecon_cornhusker/347

This Article is brought to you for free and open access by the Agricultural Economics Department at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Cornhusker Economics by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

CORNHUSKER ECONOMICS

University of Nebraska–Lincoln Extension

Nebraska Lincoln

December 19, 2007

Institute of Agriculture & Natural Resources
Department of Agricultural Economics
http://www.agecon.unl.edu/Cornhuskereconomics.html

Local Economic Impacts of Ethanol Production

Market Report	Yr Ago	4 Wks Ago	12/14/07
Livestock and Products, Weekly Average			
Nebraska Slaughter Steers, 35-65% Choice, Live Weight	$84.94	$93.15	$91.64
Nebraska Feeder Steers, Med. & Large Frame, 550-600 lb.	114.77	118.26	117.28
Nebraska Feeder Steers, Med. & Large Frame 750-800 lb.	100.58	113.24	100.00
Choice Boxed Beef, 600-750 lb. Carcass	143.41	143.50	147.70
Western Corn Belt Base Hog Price Carcass, Negotiated	54.24	45.91	54.58
Feeder Pigs, National Direct 50 lbs, FOB	*	34.81	45.33
Pork Carcass Cutout, 185 lb. Carcass, 51-52% Lean	64.50	59.15	58.93
Slaughter Lambs, Ch. & Pr., Heavy, Wooled, South Dakota, Direct	*	91.00	89.50
National Carcass Lamb Cutout, FOB	251.70	266.75	261.87
Crops, Daily Spot Prices			
Wheat, No. 1, H.W. Imperial, bu.	4.53	7.00	9.29
Corn, No. 2, Yellow Omaha, bu.	3.33	3.64	4.19
Soybeans, No. 1, Yellow Omaha, bu.	6.27	10.06	10.97
Grain Sorghum, No. 2, Yellow Dorchester, cwt.	5.59	6.59	7.38
Oats, No. 2, Heavy Minneapolis, MN , bu.	2.79	2.79	2.96
Hay			
Alfalfa, Large Square Bales, Good to Premium, RFV 160-185 Northeast Nebraska, ton.	135.00	135.00	135.00
Alfalfa, Large Rounds, Good Platte Valley, ton.	87.50	87.50	87.50
Grass Hay, Large Rounds, Good Northeast Nebraska, ton.	82.50	*	*

* No market.

The ethanol boom has generated an unprecedented amount of industrial investment in many rural communities. However, local governments and economic developers have little reliable information regarding the economic impact of these plants in the community. An assortment of consultants and government agencies, including some universities, has produced a wide range of positive impacts that stretch beyond sound economic theory or method. Communities using these optimistic estimates risk investing scarce tax dollars and resources into ethanol projects that may not produce the full expected economic benefits. Thus, it is worth discussing a reasonable estimate of the likely economic impact of a 100 million-gallon-per-year (MGY) ethanol plant in a rural Nebraska county.

The first step is to estimate future revenues and costs of a typical ethanol plant. This scenario assumes that all ethanol tax credits are extended and that the corn-based ethanol fuel mandate is increased to 15 billion gallons a year, which keeps ethanol prices around $1.80 per gallon and corn prices around $3.30 per bushel. This generates healthy profits for the ethanol plant over the coming decade, with gross profits ranging from $0.06 to $0.10 per gallon of ethanol produced. In terms of direct economic impacts, the operation of a 100-MGY ethanol plant creates 45 new jobs and $21.15 million in value added economic activity to the county economy. In addition, an increased corn price for local farmers adds another 5 jobs and $215,400 in economic activity to the local economy. This direct impact also creates a spin-off effect caused by the spending of the ethanol plant and its workers in the local economy.

Indirect, or business-to-business impacts, are goods and services purchased by the ethanol plant from other businesses in the county. These transactions add 74 jobs and $8.15 million in value added economic activity to the

IANR

Extension is a Division of the Institute of Agriculture and Natural Resources at the University of Nebraska–Lincoln cooperating with the Counties and the U.S. Department of Agriculture.

University of Nebraska Extension educational programs abide with the non-discrimination policies of the University of Nebraska–Lincoln and the United States Department of Agriculture.

local economy. Indirect effects would create business opportunities in transportation and warehousing, public electric utilities, waste management services, administrative services and repair and maintenance services.

Induced, or business-to-household impacts, are goods and services purchased by households that have one or more members employed at the ethanol plant or in the indirect support industries. These transactions add 45 jobs and $2.19 million in value added economic activity to the county economy. Induced effects would create business opportunities in health care, retail trade, food services and miscellaneous other services.

The total impact of a 100-MGY ethanol plant, including both direct and spin-off effects, adds 168 new jobs and generates $31.70 million in new value added economic activity to the local economy. This is a sizable impact in most rural counties in Nebraska. One new job at the ethanol plant creates an additional 2.73 jobs in the county (job multiplier of 3.73); and one new dollar of value added generates an additional $0.50 in economic activity in the local economy (value added multiplier of 1.50). The jobs multiplier is much higher because it includes industries that employ many part-time workers, and many of these new jobs pay lower wages.

In terms of tax revenues, a 100-MGY ethanol plant generates $3.28 million in state tax revenues and $2.78 million in local tax revenues. Local tax revenues are shared among cities, K-12 schools, county government and other taxing jurisdictions. It is important to note that these are gross revenue estimates that do not count government costs. The costs of any tax subsidies, or the costs of expanded government services (such as utilities, roads and schools) should be deducted from these tax revenue totals.

In summary, ethanol production will continue to contribute to rural economic development so long as government subsidies and expanded renewable fuel mandates stay in place. The ethanol industry provides good-paying jobs and contributes to increased farm income in rural communities. Ethanol production generates additional local jobs in other industries that supply the plant and service its workers. The capital-intensive nature of ethanol production results in sizable state and local tax revenues, so long as there are no locally-funded tax incentives and minimal demands on public services. In short, ethanol production is an important part of a community's industrial and agricultural portfolio. However, economic impacts work both ways. Rising corn costs and falling ethanol prices may mean that some ethanol plants might be idled or go bankrupt in the coming years. If this scenario were to materialize, it would mean the loss of these new jobs and added tax revenues.

David J. Peters, (402) 472-2336
Assistant Professor and
Extension Community Economics Specialist
University of Nebraska–Lincoln
dpeters2@unl.edu

Economic Impact of a 100-MGY Ethanol Plant in a Rural Nebraska County

	EMPLOYMENT IMPACTS			VALUE-ADDED IMPACTS		
INDUSTRY	**Direct**	**Indirect/Induced**	**TOTAL**	**Direct**	**Indirect/Induced**	**TOTAL**
Agriculture	1	0	2	$25,670	$20,055	$45,724
Mining	0	3	3	$97	$155,143	$155,239
Utilities	0	0	0	$0	$0	$0
Construction	0	1	1	$154	$41,989	$42,143
Manufacturing	45	5	50	$21,150,614	$449,301	$21,599,916
Wholesale Trade	0	5	5	$24,058	$410,853	$434,911
Transportation & Warehousing	0	18	18	$4,603	$2,174,851	$2,179,454
Retail Trade	1	10	11	$27,680	$327,021	$354,701
Information	0	1	1	$2,843	$71,031	$73,874
Finance &Insurance	0	2	3	$12,648	$194,338	$206,986
Real Estate & Rentals	0	1	1	$1,846	$20,838	$22,683
Professional & Scientific Services	0	4	4	$1,989	$180,107	$182,096
Management of Companies	0	0	0	$0	$39,151	$39,151
Administrative & Waste Services	0	16	16	$317	$724,363	$724,680
Educational Services	0	1	1	$919	$13,647	$14,566
Health & Social Services	1	10	11	$29,720	$352,384	$382,104
Arts, Entertainment & Recreation	0	1	1	$2,104	$26,242	$28,345
Accommodation & Food Services		10	11	$12,861	$159,087	$171,948
Other Services	0	15	16	$9,933	$673,604	$683,537
Government & Other	0	16	16	$57,978	$4,304,621	$4,362,598
TOTAL	**50**	**118**	**168**	**$21,366,031**	**$10,338,623**	**$31,704,655**