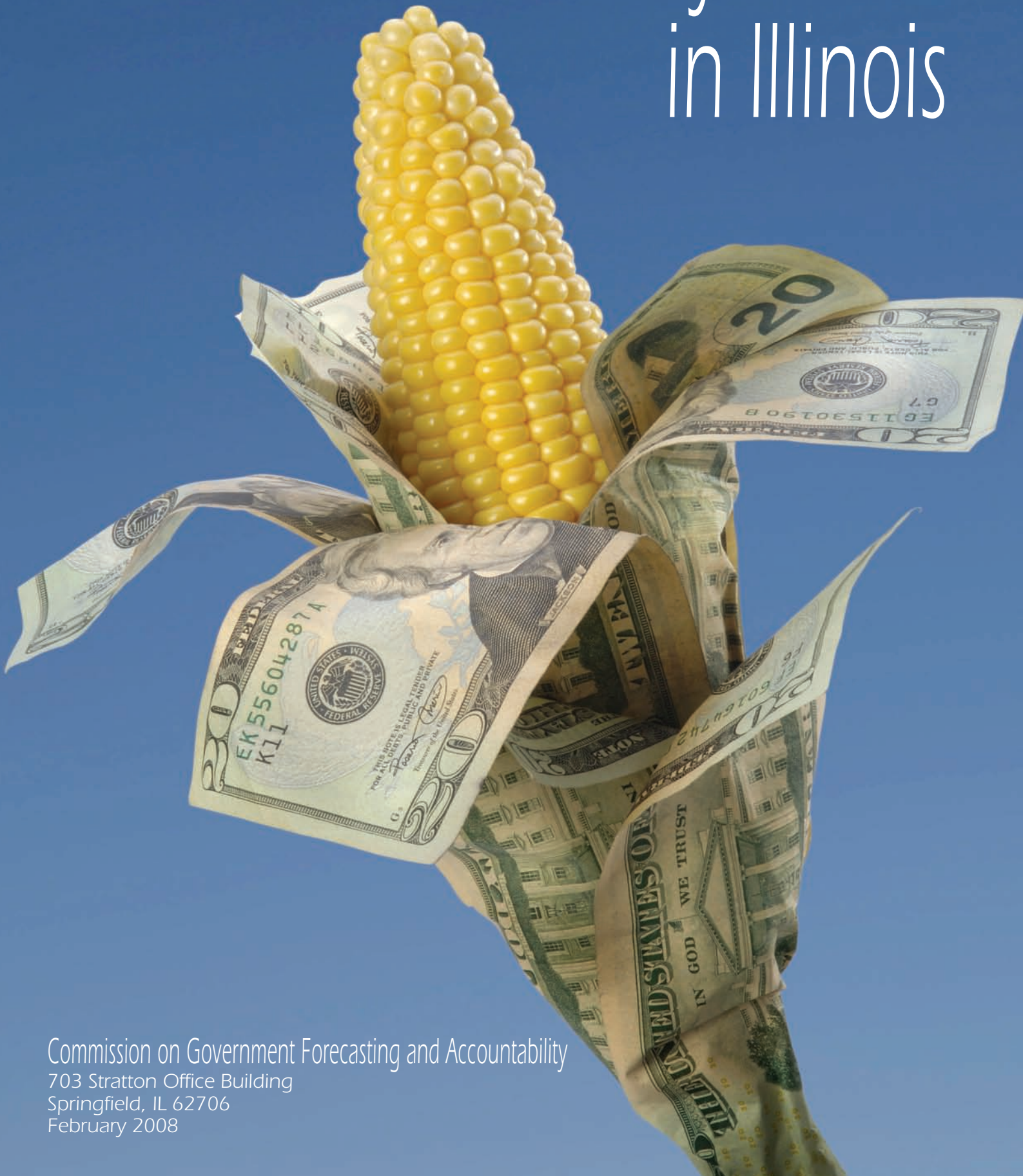


# The Ethanol Industry in Illinois



Commission on Government Forecasting and Accountability  
703 Stratton Office Building  
Springfield, IL 62706  
February 2008

*Commission on Government  
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## EXECUTIVE SUMMARY

This report presents an overview of the ethanol industry in Illinois. The report begins with a timeline of the history of the ethanol industry in the U.S. from the flex fuel Model T to the recent ethanol boom. The current state of the industry and reasons for the current expansion are also examined. The most common forms of manufacturing ethanol from corn are then explained. Next, state government support of the ethanol industry, with particular interest paid to what the State of Illinois has done, was examined. Then controversies related to the ethanol industry were summarized, and finally, the report concludes with a discussion of the economics of the industry.

Some highlights of the report are:

- As of January 2008, there were 137 operating ethanol biorefineries in the U.S. In addition to these plants, there were 37 more being constructed and 7 more being expanded. Total capacity for the industry will be over 13.5 billion gallons per year once all this construction is completed.
- Illinois had 7 operating plants, 4 plants under construction, and over 50 additional permits for plant construction being submitted. These plants accounted for over 1.1 billion gallons of capacity, placing Illinois 3<sup>rd</sup> in the U.S. in 2006.
- Recent growth in the industry is due to the high price of oil/gas, the low cost of corn, and the substantial support from both the federal and state governments.
- The vast majority of ethanol in the U.S. is derived from corn. Ethanol production from corn is manufactured through two processes: dry milling (82%) and wet milling (18%).
- The State of Illinois has supported the ethanol industry in numerous ways including a sales tax exemption, the Renewable Fuels Development Program, the Illinois E-85 Infrastructure Development Program, and the Illinois Alternate Fuels Rebate Program.
- Controversies related to the ethanol industry include ethanol's energy balance, the food vs. fuel debate, if it will ever significantly affect the country's foreign oil dependence, and how environmentally friendly it is.
- The financial analysis of ethanol production has varied greatly. Proponents of ethanol claim the industry supports hundreds of thousands of jobs, while opponents view the industry as one who depends on government support with a much smaller affect on local economies.

# I. The History of Ethanol

This section of the report will examine the history of ethanol in the United States and the current configuration of the ethanol industry. An abridged ethanol timeline, originally put together by the Energy Information Administration, the statistical agency for the U.S. Department of Energy, will be used to provide the history of ethanol. A discussion of the industry as it stands currently follows the timeline.

## Ethanol Timeline

- 1906** Over 50 years after imposing the tax on ethanol, Congress removed it, making ethanol an alternative to gasoline as a motor fuel.
- 1908** Henry Ford produced the Model T. As a flexible fuel vehicle, it could run on ethanol, gasoline, or a combination of the two.
- 1917-1918** The need for fuel during World War I drove up ethanol demand to 50-60 million gallons per year (MGY).
- 1920's** Gasoline became the motor fuel of choice. Standard Oil began adding ethanol to gasoline to increase octane and reduce engine knocking.
- 1930's** Fuel ethanol gained a market in the Midwest. Over 2,000 gasoline stations sold gasohol with 6%-12% ethanol content.
- 1941-1945** Ethanol production for fuel use increased, due to a massive wartime increase in demand for fuel, but most of the increased demand for ethanol was for non-fuel wartime uses.
- 1945-1978** Once World War II ended, with reduced need for war materials and with the low price of fuel, ethanol use as a fuel was drastically reduced. From the late 1940's until the late 1970's virtually no commercial fuel ethanol was available anywhere in the U.S.
- 1974** The first of many legislative actions to promote ethanol as a fuel, the Solar Energy Research, Development, and Demonstration Act led to research and development of the conversion of cellulose and other organic materials (including wastes) into useful energy or fuels. To this day, there is still not a commercial plant using cellulose as a feedstock.

- 1975** U.S. begins to phase out lead in gasoline. Ethanol becomes more attractive as a possible octane booster for gasoline. The Environmental Protection Agency (EPA) issued the initial regulations requiring reduced levels of lead in gasoline in early 1973. By 1986, no lead was to be allowed in motor gasoline.
- 1978** Gasohol is defined for the first time in the Energy Tax Act of 1978. Gasohol was defined as a blend of gasoline with at least 10 percent alcohol by volume. This law amounted to a 40 cents per gallon subsidy for every gallon of ethanol blended into gasoline.
- 1979** Marketing of commercial alcohol-blended fuels began.
- 1980** First U.S. survey of ethanol production conducted. Less than 10 ethanol facilities existed, producing approximately 50 MGY. Congress enacts a series of tax benefits to ethanol producers and blenders including the Energy Security Act, the Gasohol Competition Act, the Crude Windfall Tax Act, and a tariff on foreign produced ethanol. These benefits encouraged the growth of ethanol production.
- 1983** The Surface Transportation Assistance Act increased the ethanol subsidy to 50 cents per gallon.
- 1984** The number of ethanol plants in the U.S. peaked at 163. The Tax Reform Act increased the ethanol subsidy to 60 cents per gallon.
- 1985** Many ethanol producers went out of business, despite the subsidies. Only 74 of the 162 commercial ethanol plants (45%) remained operating by the end of 1985, producing 595 million gallons of ethanol for the year. One reason for producers going out of business was the very low price producers could receive for their ethanol (even with a subsidy of 60 cents per gallon), since the prices of crude oil and gasoline were so low, despite the very low price of corn.
- 1988** Ethanol was first used as an oxygenate in gasoline. Denver, Colorado mandated oxygenated fuels (i.e., fuels containing oxygen) for winter use to control carbon monoxide emissions. Other oxygenates added to gasoline included MTBE (Methyl Tertiary Butyl Ether – made from natural gas and petroleum) and ETBE (Ethyl Tertiary Butyl Ether – made from ethanol and petroleum).
- 1990** Omnibus Budget Reconciliation Act decreased the ethanol subsidy to 54 cents per gallon of ethanol.

Ethanol plants began switching from coal to natural gas for power generation and adopting other cost-reducing technologies.

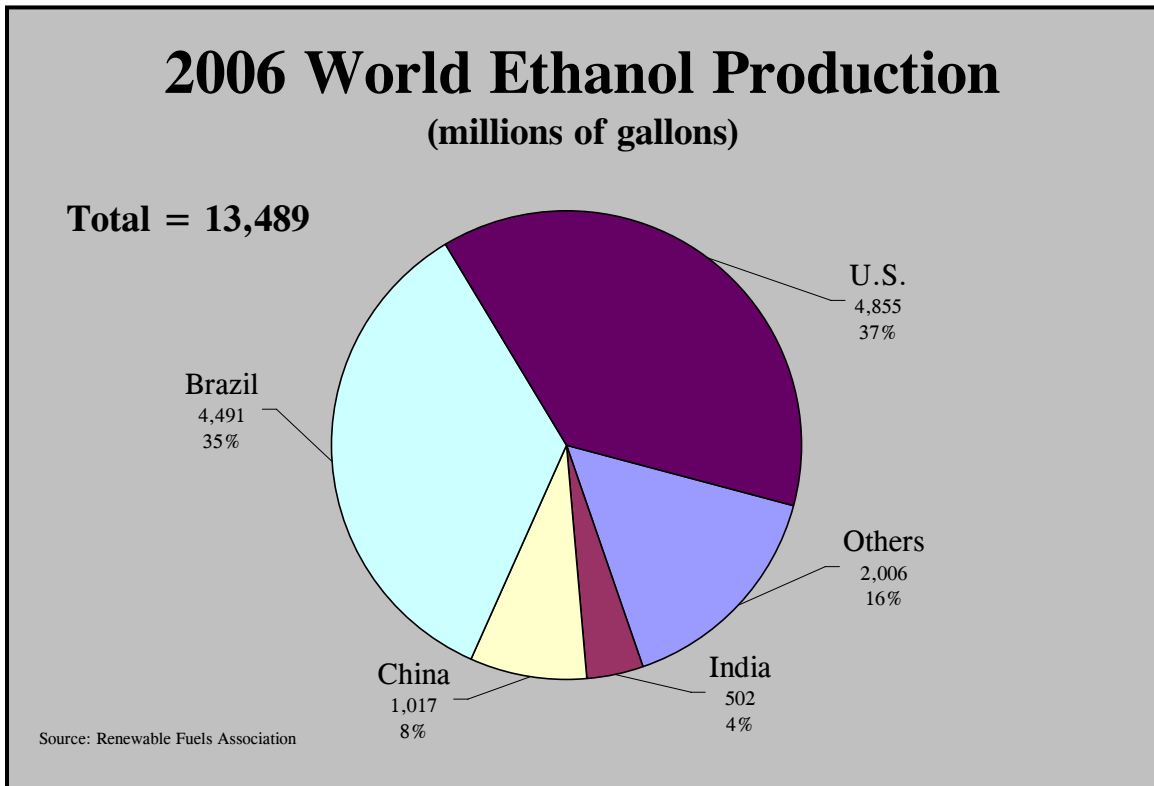
- 1995-1996** With a poor corn crop and the doubling of corn prices in the mid-1990's to \$5 a bushel, some states passed subsidies to keep the ethanol industry solvent.
- 1997** Major U.S. auto manufacturers began mass production of flexible-fueled vehicle models capable of operating on E-85, gasoline, or both.
- 1998** The ethanol subsidy is extended through 2007 but will be gradually reduced. The ethanol subsidy of 54 cents per gallon will be reduced to 51 cents per gallon in 2005.
- 1999** Some States began to pass bans on MTBE use in motor gasoline because traces of it were showing up in drinking water sources, presumably from leaking gasoline storage tanks.
- 2000** EPA recommended that MTBE should be phased out nationally.
- 2002** Over three million flex fuel vehicles are in use, due to federal regulations, but with only 169 stations in the U.S. selling E-85, most E-85 capable vehicles are still operating on gasoline instead of E-85.
- 2003** Numerous States including California and New York introduced laws banning MTBE, leading to a surge in ethanol demand.
- 2005** Energy Policy Act of 2005 creates the Renewable Fuel Standard Program that calls for the use of 7.5 billions gallons of ethanol per year by 2012<sup>1</sup>.

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<sup>1</sup> Energy Information Administration. Ethanol Timeline.  
<http://www.eia.doe.gov/kids/history/timelines/ethanol.html>

## The Current Ethanol Industry

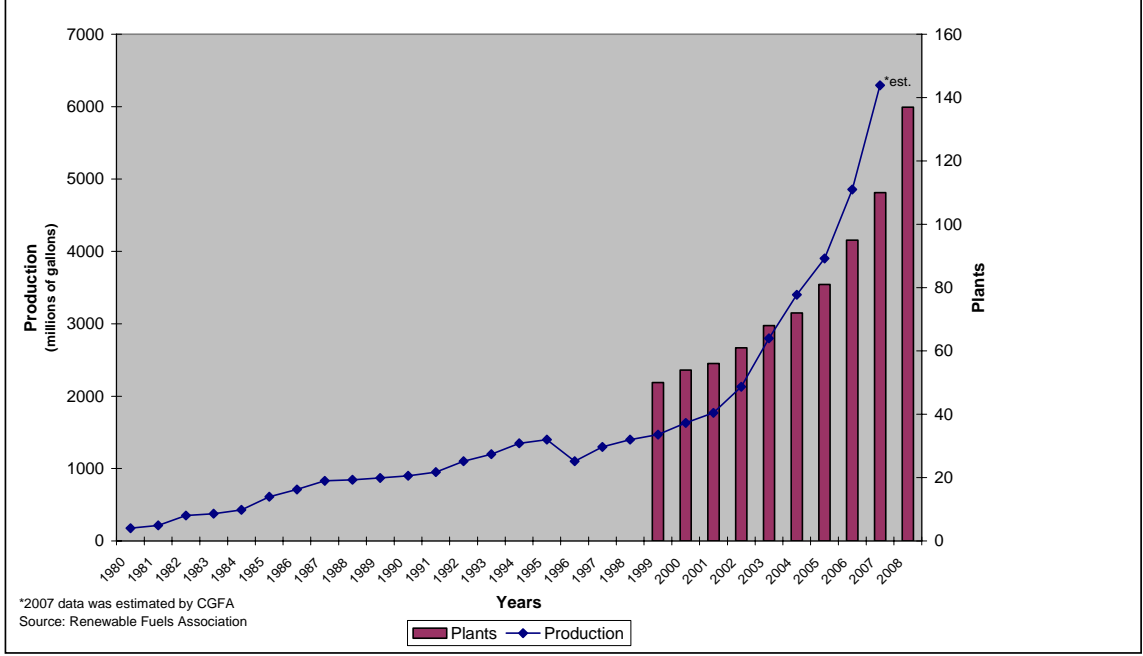
In 2006, the U.S. was the leading producer of ethanol in the world at 4.855 billion gallons. This was just ahead of Brazil, which produced 4.491 billion gallons. Brazil is somewhat different from the U.S. in that it produces the majority of its ethanol with sugarcane as the feedstock. The U.S. and Brazil accounted for over 69% of the world's ethanol production. The pie chart below illustrates this, along with the output of other leading ethanol producing countries.



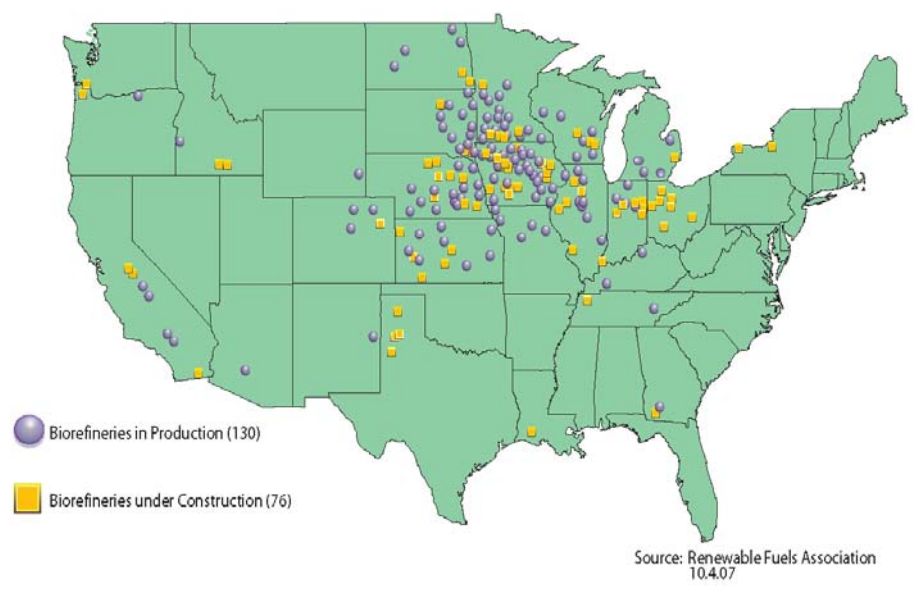
Since approximately 2003, the U.S. ethanol industry has been in a boom era. In 2002, the U.S. ethanol industry consisted of 61 ethanol plants that produced 2.1 billion gallons of ethanol. By 2006, the industry had 95 plants that produced 4.8 billion gallons. The Commission on Government Forecasting and Accountability estimates that when the official numbers come out, the U.S. ethanol industry will have produced 6.3 billion gallons in 2007. According to the Renewable Fuels Association, as of January 11, 2008, there were 137 operational ethanol plants with a production capacity of 7.6 billion gallons per year with 37 more being constructed and 7 more being expanded with an additional yearly output of 5.7 billion. A chart showing the industry's output and the number of plants in recent years and a map of U.S. ethanol plants, as of October 2007, are shown on the next page.

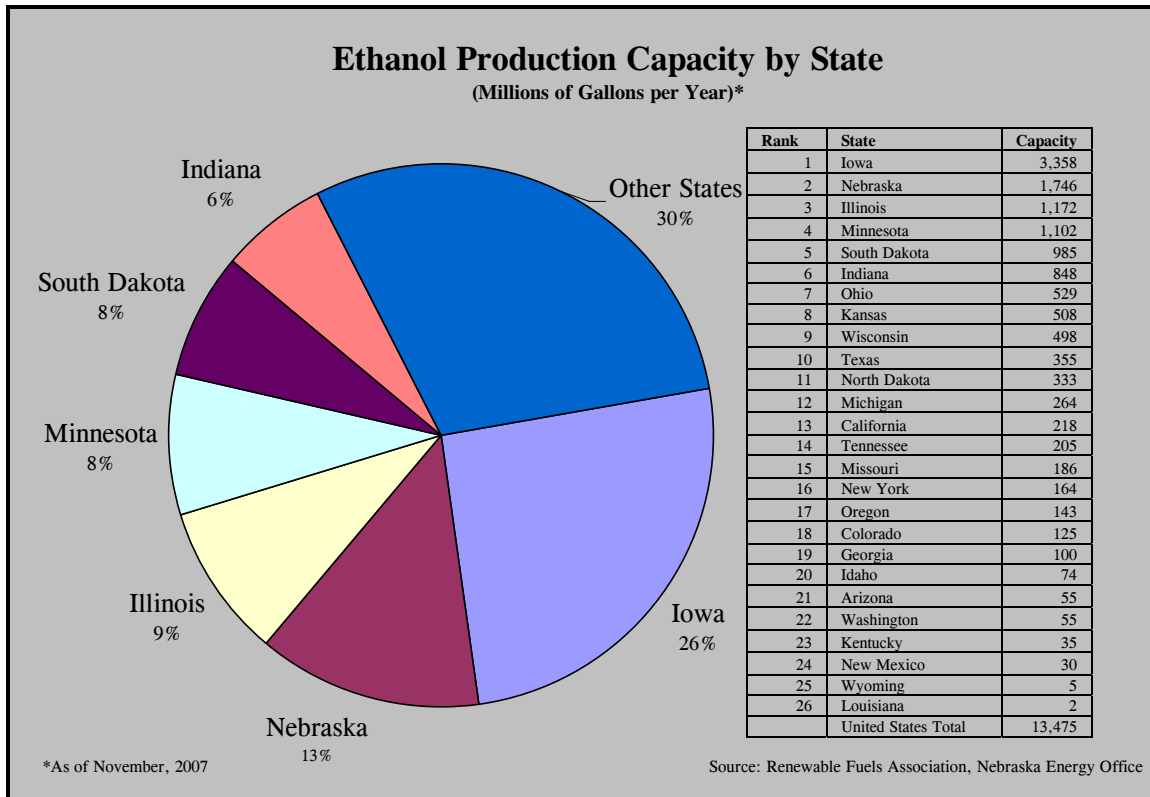


## U.S. Ethanol Production and Plants



## U.S. Ethanol Biorefinery Locations





According to the Nebraska Energy Office, as of November of 2007, the U.S. had ethanol production capacity of 13.5 billion gallons per year. This production capacity was spread out over 26 states but approximately 70% was located within the six states of Iowa, Nebraska, Illinois, Minnesota, South Dakota, and Indiana. Iowa has the most capacity at almost 3.4 billion gallons per year. The second largest state is Nebraska at approximately half as much at 1.7 billion. Illinois has the third most capacity at 1.2 billion gallons per year. These figures include operating capacity and capacity under construction.

Illinois has seven ethanol plants operating and four more plants being built. The table on the next page shows information about both the operating plants and plants under construction. In addition to these plants, numerous other ethanol plants are in various stages of planning around the state<sup>2</sup>. According to the Illinois EPA, over 50 permits to build or add on to ethanol plants have been applied for since the beginning of 2006<sup>3</sup>. Some of the construction and planning for new these new plants was slowed in the fall of 2007 due to low ethanol prices. Aventine Renewable Energy’s expansion of its Pekin plant was put on hold in October until ethanol prices rebound. The plant under

<sup>2</sup> Renewable Fuels Association. Ethanol Biorefinery Locations.  
<http://www.ethanolrfa.org/industry/locations/>

<sup>3</sup> Illinois Environmental Protection Agency. Summary Information on Fuel Ethanol Plants in Illinois.  
<http://www.epa.state.il.us/air/permits/ethanol-plants.html>

construction in Canton, being built by Central Illinois Energy, was halted in December of 2007 due to a lack of additional financing. For a comprehensive list of the current plants throughout the U.S. and a list of companies filing for ethanol plant permits in Illinois, see Appendices A and B.

<b>Illinois Ethanol Industry</b>				
<b>Company</b>	<b>City</b>	<b>County</b>	<b>Feedstock</b>	<b>Capacity (mgy)</b>
Adkins Energy, LLC*	Lena	Stephenson	Corn	40
Archer Daniels Midland (ADM)	Decatur	Macon	Corn	290
Archer Daniels Midland (ADM)	Peoria	Peoria	Corn	100
Aventine Renewable Energy, LLC	Pekin	Tazewell	Corn	207
Illinois River Energy, LLC	Rochelle	Ogle	Corn	50
Lincolnland Agri-Energy, LLC*	Palestine	Crawford	Corn	48
MGP Ingredients, Inc.	Pekin	Tazewell	Corn/wheat starch	78
<b>Plants Under Construction</b>				
Center Ethanol Company	Sauget	St. Clair	Corn	54
Central Illinois Energy, LLC	Canton	Fulton	Corn	37
Marquis Energy, LLC	Hennepin	Putnam	Corn	100
Patriot Renewable Fuels, LLC	Annawan	Henry	Corn	100

At the 2007 Illinois Farm Economic Summit, Bob Hauser, an agricultural economics professor at the University of Illinois, stated that the recent boom in the U.S. ethanol industry has been due to high levels of profitability in the industry brought about by three drivers. These three drivers were high oil prices, low corn prices, and substantial government support.

### High Oil Prices

The first driver was the rise in oil and gasoline prices over the last few years. As seen in the chart on page 10, the price of oil and gasoline has risen steadily since January of 2003, reaching record levels in recent months. This trend is projected to continue as estimated by the Energy Information Administration.

“Retail prices for petroleum products are expected to increase in 2008, pushed up by the higher average crude oil prices. **Both motor gasoline and diesel prices are projected to average over \$3 per gallon in 2008 and 2009**, with monthly average gasoline prices peaking near \$3.50 per gallon this spring (2008).<sup>4</sup>”

- Energy Information Administration

<sup>4</sup> *Short-Term Energy Outlook*. Energy Information Administration. January 8, 2008.

## Low Corn Prices

The second driver for the increase in investment in ethanol production is the relatively low and stable price of corn. As illustrated on page 10, the price of corn per bushel has been steady around \$2.42 for the last three decades. Prior to that, the price moved around \$1.14 per bushel. The price of corn rose dramatically in 1973 due to various reasons including the increase in the price of oil, an increase in world trade, and bad weather in previous growing seasons. With the recent increased demand for corn from ethanol, a new price point for corn may be developing. Professor Hauser estimated that a new price point for corn at \$3.50 may solidify in the coming years.

## Government Support

The last driver for the ethanol boom in recent years was the large amount of governmental support, particularly the \$0.51 ethanol blenders credit<sup>5</sup>. In recent years, ethanol has been pushed politically as a remedy to high oil and gas prices. Ethanol has also been championed as a means of improving national security by reducing the country's dependence on foreign oil. Though these claims have been questioned by ethanol critics, none the less, they played a part in ethanol's boom.

Numerous policy decisions have supported the ethanol industry. As part of the Energy Tax Act of 1978, a \$0.40 per gallon subsidy was created for ethanol. This subsidy is called the Volumetric Ethanol Excise Tax Credit (VEETC). This tax credit has ranged from \$0.40 per gallon to \$0.60 per gallon since its inception. Currently, the credits are \$0.51 per pure gallon of ethanol blended or \$0.51 per percentage of ethanol blended (i.e., E10 is eligible for \$0.051/gal; E85 is eligible for \$0.4335/gal); \$1.00 per gallon of agri-biodiesel; and \$.50 per gallon of waste-grease biodiesel. In the American Jobs Creation Act of 2004 the subsidy was extended through 2010.

Demand for ethanol was increased through the Renewable Fuel Standard Program. As part of the Energy Policy Act of 2005, the Renewable Fuel Standard (RFS) Program called for the use of 7.5 billion gallons of ethanol per year by 2012, which was a tripling of ethanol use at the time. In December of 2007, President Bush signed into law the Energy Independence and Security Act of 2007. This expanded the RFS by requiring 36 billion gallons of renewable fuel be used annually by 2022.

The Energy Policy Act of 2005 also specifically states that 21 billion gallons of that goal must come from advanced biofuels including cellulosic ethanol. Cellulosic ethanol is a type of ethanol produced from lignocellulose, a structural material that comprises much of the mass of plants. This type of ethanol can be made from corn stover (which

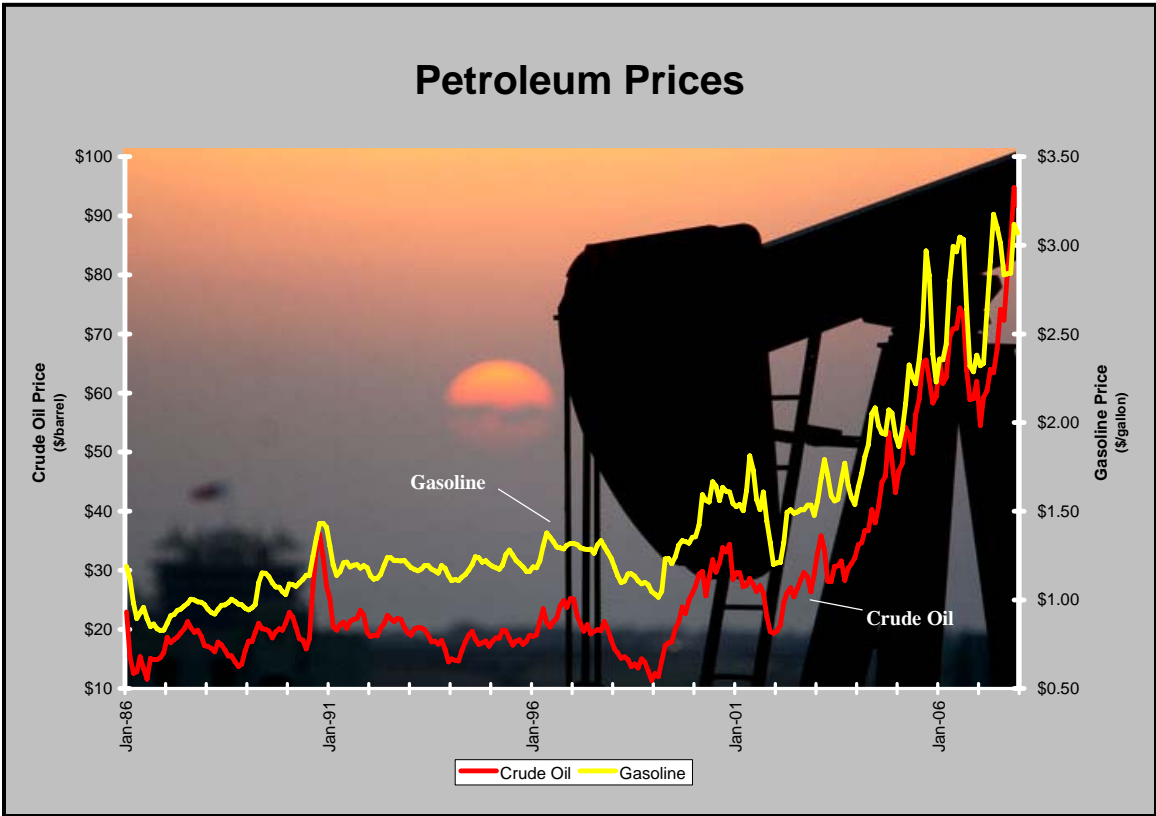
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<sup>5</sup> *Impact of Ethanol on Crop and Livestock Sectors*. Bob Hauser. Presentation at the 2007 Illinois Farm Economic Summit. Department of Agricultural and Consumer Economics. University of Illinois at Urbana-Champaign. December 12, 2007.

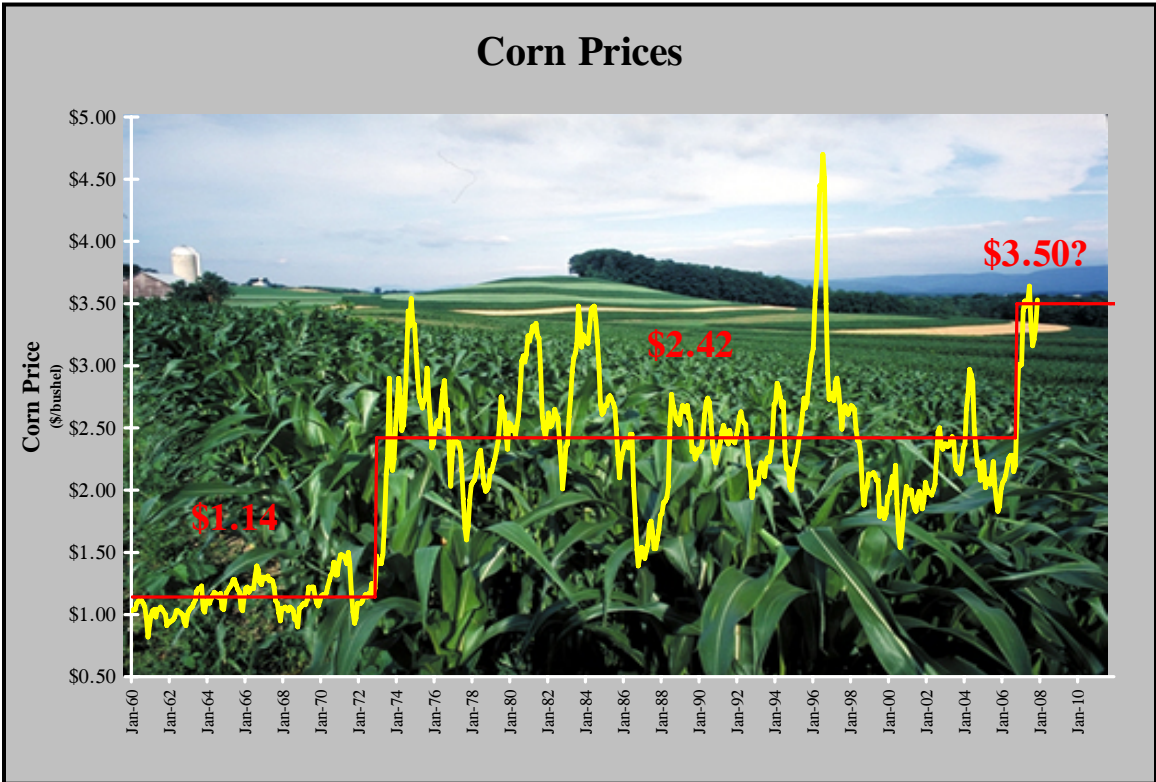
is what is left after harvest), switchgrass, miscanthus, or woodchips. This type of ethanol production has not been economical but research continues as this process is crucial in meeting the Renewable Fuels Standard mandate.

Additional federal government support for ethanol includes:

- A \$0.54 per gallon tariff on imported ethanol
- A \$0.10 per gallon small ethanol producer income tax credit
- Subsidies for the growing of corn
- E-85 infrastructure tax credits to service station providers
- Research funding
- Mandates related to the use of flex fuel vehicles by the federal government



Source: Energy Information Administration, Bureau of Labor Statistics



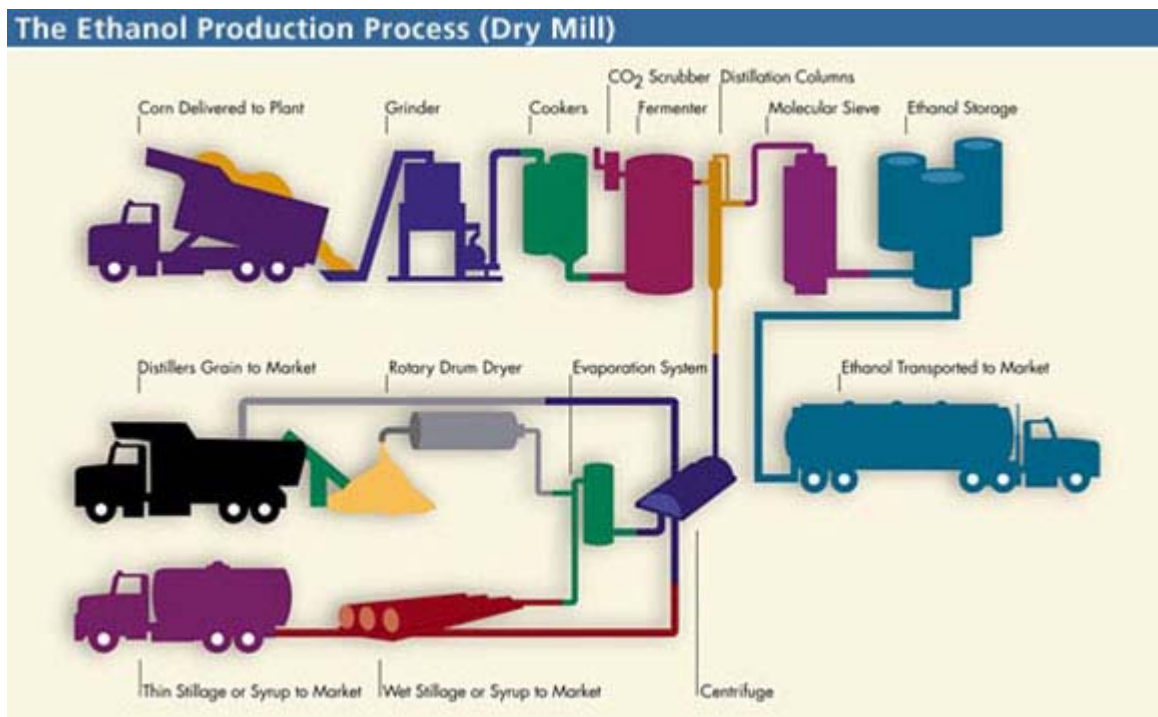
Source: Farmdoc website, University of Illinois

## II. Ethanol Manufacturing Process

Ethanol, also known as ethyl alcohol, drinking alcohol, or grain alcohol, is a flammable, colorless, mildly toxic chemical compound. There are numerous methods of producing ethanol using different chemical processes and feedstocks. The most common process employed for the vast majority of ethanol used as fuel in the U.S. is fermentation. Ethanol fermentation is the biological process by which sugars such as glucose, fructose, and sucrose, are converted into ethanol and carbon dioxide. Yeasts carry out ethanol fermentation on sugars in the absence of oxygen. Various feedstocks such as sugarcane, sugarbeets, milo, wheat, barley, wheat, waste beverage, and cheese whey can also be used in producing ethanol. In the U.S., the primary feedstock is corn. As such, this section of the report will go over corn based ethanol production as put forth by the Renewable Fuels Association.

The production of ethanol or ethyl alcohol from starch or sugar-based feedstocks is among man's earliest ventures into value-added processing. While the basic steps remain the same, the process has been considerably refined in recent years, leading to a very efficient process. There are two production processes: wet milling and dry milling. The main difference between the two is in the initial treatment of the grain. As of January 2007, dry mill facilities account for 82% of ethanol production and wet mills 18%.

### The Dry Milling Process



Source: Renewable Fuels Association

In dry milling, the entire corn kernel or other starchy grain is first ground into flour, which is referred to in the industry as "meal" and processed without separating out the various component parts of the grain. The meal is slurried with water to form a "mash." Enzymes are added to the mash to convert the starch to dextrose, a simple sugar. Ammonia is added for pH control and as a nutrient to the yeast.

The mash is processed in a high-temperature cooker to reduce bacteria levels ahead of fermentation. The mash is cooled and transferred to fermenters where yeast is added and the conversion of sugar to ethanol and carbon dioxide (CO<sub>2</sub>) begins.

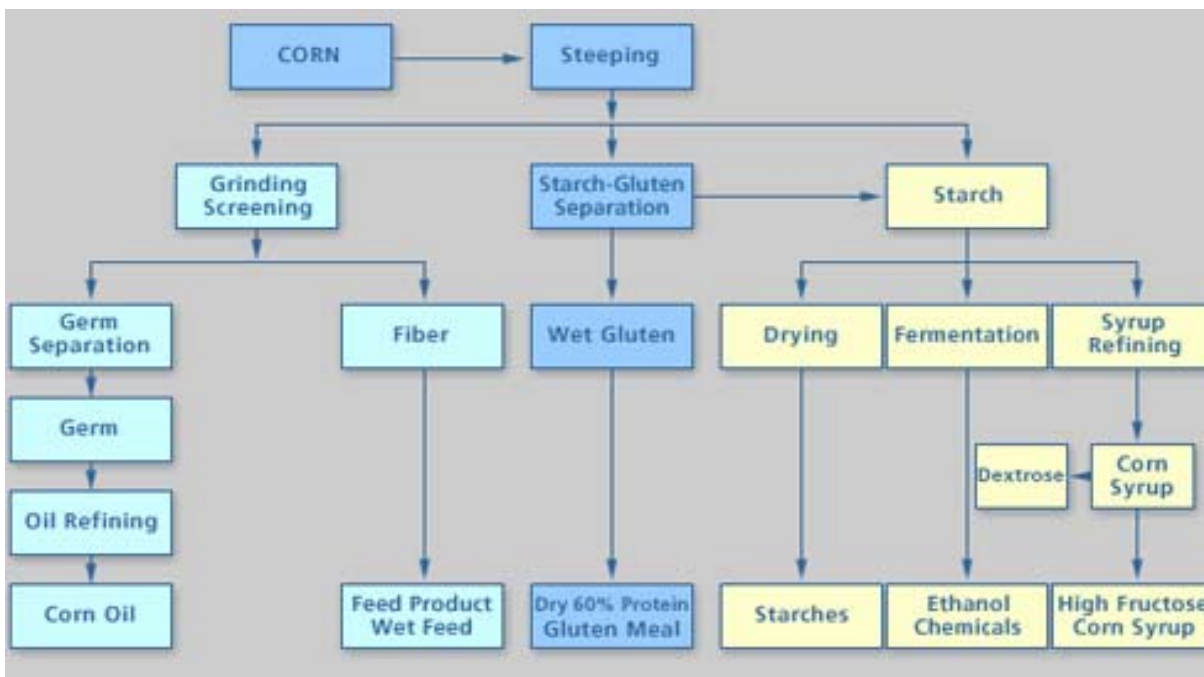
The fermentation process generally takes about 40 to 50 hours. During this part of the process, the mash is agitated and kept cool to facilitate the activity of the yeast. After fermentation, the resulting "beer" is transferred to distillation columns where the ethanol is separated from the remaining "stillage." The ethanol is concentrated to 190 proof using conventional distillation and then is dehydrated to approximately 200 proof in a molecular sieve system.

The anhydrous ethanol is then blended with about 5% denaturant (such as natural gasoline) to render it undrinkable and thus not subject to beverage alcohol tax. It is then ready for shipment to gasoline terminals or retailers.

The stillage is sent through a centrifuge that separates the coarse grain from the solubles. The solubles are then concentrated to about 30% solids by evaporation, resulting in Condensed Distillers Solubles (CDS) or "syrup." The coarse grain and the syrup are then dried together to produce dried distillers grains with solubles (DDGS), a high quality, nutritious livestock feed. The CO<sub>2</sub> released during fermentation is captured and sold for use in carbonating soft drinks and beverages and the manufacture of dry ice.



## The Wet Milling Process



Source: Renewable Fuels Association

In wet milling, the grain is soaked or "steeped" in water and dilute sulfurous acid for 24 to 48 hours. This steeping facilitates the separation of the grain into its many component parts. After steeping, the corn slurry is processed through a series of grinders to separate the corn germ. The corn oil from the germ is either extracted on-site or sold to crushers who extract the corn oil. The remaining fiber, gluten and starch components are further segregated using centrifugal, screen and hydroclonic separators.

The steeping liquor is concentrated in an evaporator. This concentrated product, heavy steep water, is co-dried with the fiber component and is then sold as corn gluten feed to the livestock industry. Heavy steep water is also sold by itself as a feed ingredient and is used as a component in Ice Ban, an environmentally friendly alternative to salt for removing ice from roads. The gluten component (protein) is filtered and dried to produce the corn gluten meal co-product. This product is highly sought after as a feed ingredient in poultry broiler operations.

The starch and any remaining water from the mash can then be processed in one of three ways: fermented into ethanol, dried and sold as dried or modified corn starch, or processed into corn syrup. The fermentation process for ethanol is very similar to the dry mill process described above<sup>6</sup>.

<sup>6</sup> Renewable Fuels Association website. <http://www.ethanolrfa.org/resource/made/>

### **III. State Government Support of Ethanol**

State governments around the nation have supported the ethanol industry in various ways. States have provided grants, tax incentives, loan programs, rebates, tax exemptions, and technical assistance. Mandates by states concerning the blending of ethanol in gasoline (Minnesota, Hawaii, and Missouri) and the complete or partial banning of MTBE's (25 states including Illinois) as an additive has also increased the demand for ethanol.

The State of Minnesota has been one of the biggest supporters of the ethanol industry. Minnesota has used both ethanol blender tax credits (enacted in 1980 and phased out in 1997) and ethanol producer payments of around 20 cents per gallon. In more recent years, the producer payments have been set at 13 cents per gallon and have been closed to new applicants (Minnesota Statutes 41A.09). Minnesota has also mandated that all gasoline sold in the state must contain at least 10% ethanol. This mandate is scheduled to rise to 20% by August 30, 2013 with some contingencies.

One way the state of Illinois has tried to support the ethanol industry is through sales tax exemptions on E-85 fuel and a partial exemption for gasohol (also known as E-10). Besides these sales tax exemptions, the state of Illinois has also supported the ethanol industry in various other ways. The main thrust of this effort is done through three programs administered by the Department of Commerce and Economic Opportunity (DCEO) and two programs administered by the Illinois Environmental Protection Agency (IEPA). The three programs that highlight this effort at DCEO are the Renewable Fuels Development Program (RFDP), the Illinois E-85 Infrastructure Development Program, and the Renewable Fuels Research, Development, and Demonstration Program. The IEPA oversees the Illinois Alternate Fuels Rebate Program and Illinois Green Fleets Program.

#### **E-85 Sales and Use Tax Exemption (35 ILCS 120/2-10 and 105/3-10)**

Sales and use taxes do not apply to ethanol-blended fuels (containing between 70% and 90% ethanol) sold between July 1, 2003, and December 31, 2013. These taxes apply to 100% of the proceeds from sales made thereafter. Under the same statutes, there is also a 20% exemption of the sales and use tax for gasohol as defined in the Use Tax Act. The table on the next page shows the substantial growth in E-85 use beginning in 2005 and the foregone sales tax revenue for both E-85 and gasohol (E-10). It must be mentioned that the vast majority of these tax exemptions go towards E-10 and was estimated to be less than \$1 million in FY2007 for the E-85 portion.

<b><i>E-85 Production in Illinois</i></b>					
<b><i>Year</i></b>	<b>FY 2003</b>	<b>FY 2004</b>	<b>FY 2005</b>	<b>FY 2006</b>	<b>FY 2007</b>
<b><i>E-85 Production (1000 gal.)</i></b>	<b>241.9</b>	<b>224.8</b>	<b>676.0</b>	<b>3,041.9</b>	<b>6,960.8</b>
<b><i>% Change</i></b>	<b>N/A</b>	<b>-7.1%</b>	<b>200.7%</b>	<b>350.0%</b>	<b>128.8%</b>
<b><i>Sales Tax Exemption (E-10 and E-85)</i></b>	<b>\$60.0 M</b>	<b>\$62.5 M</b>	<b>\$77.7 M</b>	<b>\$101.5 M</b>	<b>\$101.9</b>
Source: Illinois Dept. of Revenue, Illinois State Comptroller, CGFA estimate for E-85 tax exemption					

### **Renewable Fuels Development Program (20 ILCS 689/15)**

The Renewable Fuels Development Program (RFDP) was established in June of 2003 by Public Act 93-15 to provide grants for the construction of new biofuels production facilities in Illinois. The program is specifically designed to increase biofuels (ethanol and biodiesel) production in Illinois.

The Renewable Fuels Development Program provides grants for the construction of new biofuels production facilities with a capacity of at least 30 MGY and/or the expansion of existing biofuel production facilities by at least 30 million gallons per year. The maximum grant award under this program is \$5.5 million per facility.

The Biofuels Business Planning Grant Program, a subsidiary of the Illinois Renewable Fuels Research, Development, and Demonstration Program, provides grants up to \$25,000 for the development of business plans, engineering studies, design studies, permit applications, and legal work for potential new biofuels facilities in Illinois. This program usually funds 3 to 5 grants annually.

The RFDP is designed to:

- increase the production of ethanol and biodiesel fuels in Illinois
- expand the market and demand for Illinois agricultural products
- create new construction and permanent jobs in Illinois
- expand rural economic development in Illinois
- reduce the nation's dependence on foreign oil
- improve air quality through the reduction of harmful vehicular exhaust emissions

Program details:

- The minimum eligible facility size is 30 MGY.
- A Project Labor Agreement is required to be eligible to receive a grant award.
- Maximum RFDP grant award is \$5.5 million
- Total grant award cannot exceed 10% of the total construction costs of the facility or \$0.10 per gallon of additional biofuels production capacity, whichever is greater.

The table below summarizes the projects that have been approved for grants under RFDP. It must be pointed out that though some projects were awarded grants, the money was not spent due to the projects being cancelled and thus the grants voided.

<b><i>Renewable Fuels Development Program Grants</i></b>					
<b><i>Company</i></b>	<b><i>City</i></b>	<b><i>Type*</i></b>	<b><i>Capacity (million gal./yr)</i></b>	<b><i>Amount (\$million)</i></b>	<b><i>Fiscal Year</i></b>
Illinois River Energy, Inc.	Rochelle	E	50	\$5.5 M	2004
Lincolnland Agri-Energy, LLC	Palestine	E	40	\$4.8 M	2005
Central Illinois Energy, LLC	Canton	E	37	\$4.5 M	2005
Stepan, Inc.	Elwood	B	45	\$3.0 M	Grant Voided
Center Ethanol Company	Sauget	E	50	\$4.0 M	2007
Bunge, N.A.	Danville	B	45	\$4.0 M	2007
National Trails Biodiesel	Newton	B	30	\$2.0 M	2007
Illinois Biodiesel Company	Chicago	B	42	\$3.0 M	2007
Western Illinois Ethanol Project	Griggsville	E	50	\$4.0 M	Grant Voided
Renewable Energy Group (REG)	Cairo	B	60	\$3.0 M	Grant Voided
Blackhawk Biofuels, LLC	Freeport	B	30	\$3.4 M	2007
* E = Ethanol, B = Biodiesel, Source: Illinois Dept. of Commerce and Economic Opportunity					

### **Illinois E-85 Infrastructure Development Program (415 ILCS 120/31)**

Through a grant from the Illinois Clean Energy Community Foundation (ICECF), Illinois is helping to build an infrastructure of E-85 refueling stations throughout the State. E-85 is currently the main alternative to petroleum gasoline and is composed of 85 percent ethanol fuel and 15 percent petroleum gasoline.

The Illinois E-85 Infrastructure Development Program provides up to 50 percent of the cost (up to a maximum \$3,000) for the conversion of an existing station to allow for E-85 operation, or up to 30 percent of the cost (up to a maximum \$30,000) for construction of a new E-85 refueling facility or major modification to an existing facility.

An important objective of this program is a shift from the nation's dependence on foreign oil to energy self-sufficiency. A concern for the State is the record high gasoline prices brought on by the imported oil that many working families cannot afford to pay. DCEO supports the continued use and expansion of E-85 as an environmentally friendly and cheaper alternative to imported oil as a means to help Illinois consumers. Additionally, this program creates many permanent jobs in Illinois and helps to support Illinois farmers by facilitating the sale of their corn – by increasing demand for ethanol fuel.

There are currently more than 170 E-85 fueling stations in Illinois, many of which have received grants under the Illinois E-85 Infrastructure Development Program. Interest in this program has waned recently due to a lack of under-writers certification of the new gas dispensers. This certification is being conducted currently and is expected to renew interest in the program once completed. DCEO has spent over \$500,000 on this program and continues to seek additional funding to continue its efforts to build upon Illinois' expanding E-85 fueling infrastructure. A list of the fueling stations that offer E-85 can be found in Appendix C.

### **Renewable Fuels Research, Development and Demonstration Program (415 ILCS 120/25)**

Through its Renewable Fuels Research, Development and Demonstration Program, DCEO works with Illinois' industrial and agricultural organizations to actively promote and expand the use of biofuels, such as ethanol and biodiesel, as clean, renewable transportation fuels.

The Illinois Renewable Fuels Research, Development, and Demonstration Program funds research, development, planning, and education projects that are designed to increase the use of renewable fuels technologies and reduce related production costs. The primary focus of the program is biofuels (ethanol and biodiesel) production and utilization.

The objective of this program is to accelerate the commercialization of new renewable fuel technologies and products. This will serve to expand rural economies, develop and expand new business and investment opportunities in Illinois, reduce the outflow of energy dollars from the region, and improve the environment. With the help of this program, Illinois' biofuels industry will continue to expand and find new and better biofuels or improve those that are already being used.

The Illinois Renewable Fuels Research, Development, and Demonstration Program has sponsored research and development of new and innovative technologies that help reduce ethanol production costs and develop new value-added products. It has also funded a series of demonstrations to develop and test new ethanol fuel blends and has provided funding for research at the National Corn to Ethanol Research Center at Southern Illinois University in Edwardsville<sup>7</sup>.

### **Illinois Alternate Fuels Rebate Program (415 ILCS 120/30)**

The Illinois Alternate Fuels Rebate Program started in 1998 and over \$2.5 million in rebates have been issued through 2005. All businesses, local governments, organizations, and individuals in Illinois are eligible to apply for a rebate. Rebates may be issued to any applicant for up to 300 vehicles. The only entity excluded from the program is the federal government.

There are three types of rebates from which applicants may choose one type of rebate per vehicle: (1) A rebate for the incremental cost of an alternate fuel vehicle purchased from a dealership or similar vendor (Vehicle Rebate), (2) a rebate for the cost of the conversion of an existing vehicle to operate with an alternate fuel (Conversion Rebate), and (3) a rebate for the incremental cost of purchasing alternate fuels (Fuel Rebate). For all rebates, the alternate fuel vehicle, conversion system, or alternate fuel must be purchased from an Illinois company or vendor.

Eligible fuels for the program include E-85, Biodiesel (at least 20 percent blend or B-20), natural gas, propane, electricity, and hydrogen. To be eligible, a vehicle must be a licensed, on-road vehicle and be able to be legally driven on public roads. Gasoline-electric hybrid vehicles (i.e., Toyota Prius, Toyota Highlander, Honda Civic, Honda Accord, Ford Escape, Mercury Mariner) are not defined as an alternate fuel vehicle and are not eligible for a rebate since these vehicles are refueled with gasoline.

### **Illinois Green Fleets Program**

The Illinois Green Fleets Program is a voluntary program where businesses, government units, and other organizations in Illinois gain recognition and additional marketing opportunities for having clean, green, domestic, renewable, American fuel vehicles in their fleet. It is a program to recognize a fleet manager's progressive efforts in using environmentally friendly vehicles and fuels to improve air quality while promoting our domestic fuels for greater national energy security.

An Illinois Green Fleet is one that acquires vehicles using natural gas, propane, 85% ethanol (E-85), electricity, biodiesel, or other clean, American fuels. Vehicles acquired from the auto

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<sup>7</sup> Illinois Department of Commerce and Economic Opportunity. Program Summaries. [http://www.commerce.state.il.us/dceo/Bureaus/Energy\\_Recycling/Energy/Renewable+Fuels/default.htm](http://www.commerce.state.il.us/dceo/Bureaus/Energy_Recycling/Energy/Renewable+Fuels/default.htm)

manufacturers and conversions will qualify. A fleet must have a portion of its vehicles being American Fuel Vehicles (AFVs) and these vehicles must use a clean, domestic fuel to qualify as an Illinois Green Fleet.

A designated Illinois Green Fleet benefits from the recognition and marketing inherent in the program. In addition to the website, the Illinois Green Fleets Program has a periodic newsletter, informational materials, and fleet recognition events. The Illinois EPA coordinates with several organizations in distributing the newsletter and other marketing materials to businesses and local governments throughout the State. As part of the outreach materials and website, the list of businesses and government units that are Illinois Green Fleets are highlighted, along with feature stories of how certain fleets became Illinois Green Fleets and their experiences in using clean, domestic fuels and vehicles.

As of January 9, 2008, the website for the program listed 85 “Green Fleets” within the State. These fleets accounted for 10,252 vehicles. Just under half of these vehicles ran on biodiesel (5,047), while approximately 32% (3,264) used E-85. Most of the rest of the vehicles used Natural Gas CNG (847) or Propane LPG (797), while the remaining few were hybrids or used hydrogen<sup>8</sup>.

### **Other Alternative Fuel Initiatives in Illinois**

A few other initiatives related to ethanol and alternate fuels promoted by the State of Illinois are listed below:

- Biofuels Preference for State Vehicle Procurement (30 ILCS 500/45-60)
- State Agency Vehicle Acquisition and E-85/Biofuels Use (Executive Order 7, 2004)
- State Vehicle Fuel Economy Requirements (30 ILCS 500/45-40)
- Corn-to-Ethanol Research Pilot Plant (Public Act 095-0099, 20 ILCS 1105/3, and 110 ILCS 520/6.5 to 520/6.6)
- Flexible Fuel Vehicle (FFV) Registry (415 ILCS 120/22)
- The Green Governments Illinois Act
- Clean School Bus Program
- Hybrid Electric Vehicle Rebate (Green Rewards Program)
- Biodeisel Blend Use Requirement for state and local governments (625 ILCS 5/12-705.1)

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<sup>8</sup> Illinois Environmental Protection Agency. Green Fleets Program Website. <http://www.illinoisgreenfleets.org/>

## IV. Ethanol Controversies

There are numerous controversies that surround production of ethanol in the United States. The first controversy is the energy balance of producing ethanol with corn. The second argument wages over the “Food vs. Fuel” debate. Another contentious issue is whether or not ethanol helps with the country’s national security. The last is the claim that ethanol is “good for the environment”. This is a far from complete list of issues related to ethanol, but it outlines the main ones.

### Is ethanol production a net positive?

Some opponents of ethanol have put forth that the production of ethanol has a net negative energy balance. These opponents often point to the work of David Pimentel, an Entomologist at Cornell University and Tadeusz Patzek, a Geological Engineer from the University of California at Berkley. Their research stated that corn required 29 percent more fossil energy than the fuel produced. Proponents of ethanol production characterize their work as inaccurate due to the modeling of outdated farming practices and the incorrect valuation of ethanol co-products<sup>9</sup>.

This research contradicted a study done by the U.S. Department of Agriculture (USDA) in 1995 that stated that the net ethanol energy balance of corn ethanol was 1.24<sup>10</sup>. A 2004 USDA study found the net energy balance of corn ethanol to be 1.67<sup>11</sup>. A 2006 review of six other studies at the University of California at Berkley found that ethanol production was a net positive<sup>12</sup>. A 2006 University of Minnesota study found an energy balance of 1.25<sup>13</sup>.

### Food vs. Fuel?

Opponents of ethanol have pointed out the rise in corn costs in recent times due to the increased demand for corn by the ethanol industry. They argue that the increase in corn prices will ripple through the economy and end up in higher costs for a large

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<sup>9</sup> *Ethanol Production Using Corn, Switchgrass, and Wood; Biodiesel Production Using Soybean and Sunflower* David Pimentel and Tad W. Patzek Natural Resources Research, Vol. 14, No. 1, March 2005

<sup>10</sup> *Estimating the Net Energy Balance of Corn Ethanol* Hosein Shapouri, James A. Duffield, and Michael S. Graboski Agricultural Economics Report No. (AER721) 24 pp, July 1995  
[www.ers.usda.gov/publications/aer721/](http://www.ers.usda.gov/publications/aer721/)

<sup>11</sup> Shapouri, H., Duffield, J., Mcaloon, A.J. The 2001 net energy balance of corn-ethanol. 2004. Proceedings of the Conference on Agriculture as a Producer and Consumer of Energy, Arlington, VA., June 24-25..

<sup>12</sup> *Ethanol Can Contribute to Energy and Environmental Goals* Alexander E. Farrell, Richard J. Plevin, Brian T. Turner, Andrew D. Jones, Michael O’Hare, Daniel M. Kammen 506 27 January 2006 vol 311 Science

<sup>13</sup> Hill, Jason; Nelson, Erik; Tilman, David; Polasky, Stephen; and Tiffany, Douglas (July 25 2006). "[Environmental, economic, and energetic costs and benefits of biodiesel and ethanol biofuels](#)". *Proceedings of the National Academy of Sciences* **103** (30): 11206-10.



amount of food items that use corn in their production. The increased cost especially hurts farmers who grow livestock that are fed corn including beef, pork, poultry, and dairy. Some of this increased feed cost can be negated somewhat by use of distillers dried grains plus solubles (DDGS), a co-product of ethanol, but not all corn fed animals can utilize DDGS.

Proponents of ethanol respond that the increased price of corn has little to do with the increased cost of food. They claim that the increased prices seen recently are more of a result of high energy prices. A spokesman for the Renewable Fuels Association was quoted as saying “A box of corn flakes only has a nickel’s worth of corn. What impacts consumer food prices far more than the price of corn is the energy, the marketing, the packaging, everything else that goes into bringing a box of corn flakes into grocery stores.”

### **Does ethanol help our nation’s national security?**

Proponents of ethanol use claim that by using ethanol will improve our nation’s security by lessening the country’s dependence upon foreign oil. The Ethanol Promotion and Information Council (EPIC) website states:

“Ethanol is helping address the need for renewable fuel options - so someday we won't have to worry about other countries holding the keys to our nation's critical fuel supply. U.S. ethanol production replaces about 46.7 million barrels of imported gasoline or crude oil each year - more than 14 billion gallons since 1978. In 2005, the use of ethanol reduced the U.S. trade deficit by \$8.7 billion by eliminating the need to import 170 million barrels of oil.”

Opponents point out that currently ethanol based fuel use makes up an insignificant amount of total fuel use and would never be able to significantly affect gas demand due to limited corn production capability. They point out to reach the Presidents goal of 35 billion gallons per year would require 12.5 billion bushels. The 2007 U.S. corn crop was estimated to be 13.1 billion bushels. Under this scenario, the ethanol industry would account for over 95% of corn usage, a far cry from the approximate 20% currently. Proponents counter that corn ethanol was never meant to totally replace gasoline and that with advances in cellulosic ethanol production techniques; ethanol can be a more significant player in the fuel industry.

### **Is ethanol production “Green”?**

Ethanol production has often been touted as good for the environment. Proponents say that compared with gasoline-fueled vehicles, most ethanol-fueled vehicles produce lower carbon monoxide and carbon dioxide emissions and the same or lower levels of hydrocarbon and non-methane hydrocarbon emissions. Carbon dioxide is a greenhouse

gas and a major contributor to global warming. Oxides of nitrogen (NO<sub>x</sub>) emissions are about the same for ethanol and gasoline vehicles.

Opponents say that large-scale ethanol production raises environmental concerns, including water-pollution and soil-quality problems associated with growing energy crops, but by far the biggest are the air-quality issues associated with using ethanol. As identified by Nathaniel Greene, a senior policy analyst for the environmental group Natural Resources Defense Council (NRDC), the “low blends” predominantly used today, which contain only 5–10% ethanol and are mixed with regular unleaded gas, have higher evaporative emissions than regular gasoline in warm climates, and this contributes to ozone problems.

## V. The Economic Effects of Ethanol

The economic effects of ethanol have long been debatable as proponents have claimed that ethanol is a robust boost to rural economies, while proponents say that ethanol is a waste of taxpayers money. To analyze the economic effects of ethanol, numerous studies were examined. Two questions appeared to be important in this line of study: (1) At what price levels is ethanol production profitable and (2) what are the local economic impacts?

### At what price levels is ethanol production profitable?

To answer the question, at what price levels is ethanol production profitable, two academic studies were examined. Each of these studies looked at the industry both with and without subsidies. This is important as there are many people who believe the industry would not be profitable without subsidies. The first study was from researchers at Purdue University. The 2006 study, conducted by Justin Quear and Wallace Tyner, looked at the profitability of dry mill ethanol production based on the price of corn and the price of ethanol<sup>14</sup>. The results from this study can be seen in the table on the right. It shows that ethanol production under most conditions is somewhat profitable without subsidies but very profitable with subsidies. This profitability is the main reason for the recent boom in ethanol investment.

The second study examined was a 2007 University of Illinois study that looked at the break even point of ethanol production based on the price of corn and the price of gasoline. Break even analysis shows where

total revenue received equals total costs associated with the sale of a product. The study

<i>Dry Mill Ethanol Profitability</i>			
<i>Corn Price (\$/bu)</i>	<i>Ethanol Price (\$/gal)</i>	<i>Profit per gallon of ethanol</i>	
		<i>Without Subsidy (\$)</i>	<i>With Subsidy (\$)</i>
2.00	1.25	0.04	0.55
2.00	1.50	0.29	0.80
2.00	2.00	0.79	1.30
2.00	2.50	1.29	1.80
2.00	3.00	1.79	2.30
2.50	1.25	-0.08	0.43
2.50	1.50	0.17	0.68
2.50	2.00	0.67	1.18
2.50	2.50	1.17	1.68
2.50	3.00	1.67	2.18
3.00	1.25	-0.20	0.31
3.00	1.50	0.05	0.56
3.00	2.00	0.55	1.06
3.00	2.50	1.05	1.56
3.00	3.00	1.55	2.06
4.00	1.25	-0.45	0.07
4.00	1.50	-0.20	0.32
4.00	2.00	0.31	0.82
4.00	2.50	0.81	1.32
4.00	3.00	1.31	1.82

<sup>14</sup> *Development of Variable Ethanol Subsidy and Comparison with the Fixed Subsidy.* Justin Quear and Wallace E. Tyner. Agricultural Economics Department, Purdue University. Staff Paper #06-16. November 2006.

showed how much an ethanol plant could afford to spend on corn (ethanol's main cost) at various gas price levels. For example, in this study, an ethanol plant could afford to pay up to \$3.00 per bushel of corn when gas prices were at least \$2.35 per gallon. The table below shows the results of the study<sup>15</sup>. As can be seen in the tables, the higher the price of gasoline, the more an ethanol plant can pay for a bushel of corn to produce ethanol.

<b><i>Break Even Analysis of Ethanol</i></b>		
<b><i>Corn Price (bu)</i></b>	<b><i>Gas Price (gal.) Subsidy</i></b>	<b><i>Gas Price (gal.) No subsidy</i></b>
<b>\$2.50</b>	<b>\$2.14</b>	<b>\$2.65</b>
<b>\$3.00</b>	<b>\$2.35</b>	<b>\$2.86</b>
<b>\$3.50</b>	<b>\$2.56</b>	<b>\$3.07</b>
<b>\$4.00</b>	<b>\$2.77</b>	<b>\$3.28</b>
Source: 2007 Illinois Farm Economic Summit		

### **What are the local economic impacts?**

To determine what the local economic impacts of an ethanol plant researchers have often used input-output models to determine the amount of value added to the local economy and the amount of jobs produced from an ethanol plants. Some studies funded by ethanol proponents have been criticized as being overly optimistic in their assumptions. Research studies conducted at Midwestern universities tended to have lower total economic impacts by the ethanol industry.

One study conducted in 2006 by John M. Urbanchuk for the Renewable Fuels Association (RFA) showed that the ethanol industry had a sizeable affect on both the national and local economy. Urbanchuk's study stated that under construction ethanol plants contributed \$32.2 billion to gross output and \$17.7 billion to the Gross Domestic Product (GDP) of the American economy in 2005. The report also concluded that this economic activity supported the creation of 153,725 jobs. At the local level, Urbanchuk estimated the local impact of 50 MGY and 100 MGY dry mill ethanol plants. The results of this analysis can be seen on the next page<sup>16</sup>.

<sup>15</sup> *Impact of Ethanol on Crop and Livestock Sectors*. Bob Hauser. 2007 Illinois Farm Economic Summit. December 12, 2007.

<sup>16</sup> *Contribution of the Ethanol Industry to the Economy of the United States*. Prepared for the Renewable Fuels Association by John M. Urbanchuk. Director, LECG LLC. February 21, 2006.

<b><i>RFA Study Results</i></b>		
	<b><i>50 MGY</i></b>	<b><i>100 MGY</i></b>
<b>Annual Expenditures</b> (Mil 2005 \$)	<b>\$46.7</b>	<b>\$88.2</b>
<b>Gross Output</b> (Mil 2005 \$)	<b>\$209.2</b>	<b>\$406.2</b>
<b>GSP</b> (Mil 2005 \$)	<b>\$115.0</b>	<b>\$223.4</b>
<b>Household Income</b> (Mil 2005 \$)	<b>\$29.7</b>	<b>\$51.2</b>
<b>Employment</b> (Jobs)	<b>836</b>	<b>1,573</b>

A 2006 study conducted at Iowa State University had much lower total effects on the local economy. Dave Swenson conducted analysis on a 50 MGY ethanol plant that drew corn from three rural counties in Central Iowa. He used an IMPLAN input-output economic model to estimate the direct and indirect economic impacts of the ethanol plant. He arrived at a total output amount of \$133 million per year, value added of \$25 million, and total jobs added at 133. The results from this study can be found below.

<b><i>ISU Study Results</i></b>					
	<b><i>Direct</i></b>	<b><i>Indirect</i></b>	<b><i>Induced</i></b>	<b><i>Total</i></b>	<b><i>Multiplier</i></b>
<b>Output</b>	<b>\$118.6 M</b>	<b>\$13.3 M</b>	<b>\$1.5 M</b>	<b>\$133.5 M</b>	<b>1.13</b>
<b>Value Added</b>	<b>\$18.4 M</b>	<b>\$6.0 M</b>	<b>\$0.9 M</b>	<b>\$25.4 M</b>	<b>1.38</b>
<b>Employment</b> (Jobs)	<b>35</b>	<b>75</b>	<b>23</b>	<b>133</b>	<b>3.79</b>

A 2007 study conducted at the University of Illinois found similar results as the ISU study but conducted it in three different locations. The U of I study conducted the study using an IMPLAN model on a 100 MGY ethanol plant in a rural county, a 60 MGY plant in a mixed rural micropolitan county, and a 100 MGY ethanol plant in a mixed rural metropolitan county. The results from the study are shown on the next page and show that ethanol plants tend to have larger economic effects in more complex economies (metropolitan vs. rural) due to greater availability of local goods and services (i.e. accounting, marketing, etc.)<sup>17</sup>.

<sup>17</sup> *Corn-Based Ethanol in Illinois and the U.S.* A Report from the Department of Agricultural and Consumer Economics, University of Illinois. Chapter 5. November, 2007.

## *U of I Study Results*

	<i>Capacity</i>	<i>County Type</i>		<i>Direct (M)</i>	<i>Indirect (M)</i>	<i>Induced (M)</i>	<i>Total (M)</i>
<b>Hamilton County</b>	100 MGY	Rural	<b>Output</b>	\$214.6	\$14.6	\$1.6	\$230.8
			<b>Employment</b>	39	97.1	16.7	152.7
<b>Coles County</b>	60 MGY	Mixed Rural Micropolitan	<b>Output</b>	\$128.8	\$15.4	\$3.0	\$147.2
			<b>Employment</b>	35	82.7	34.6	152.2
<b>Kankakee County</b>	100 MGY	Mixed Rural Metropolitan	<b>Output</b>	\$214.6	\$27.2	\$5.7	\$247.6
			<b>Employment</b>	39	152.1	59.1	250.1

## **VI. Conclusion**

The ethanol industry has exploded throughout the Midwest in recent years and looks to continue to do so in the near future. Construction of ethanol plants continues but will most likely hit a point where the market dictates an end to the building. The ethanol industry has had numerous ups and downs over the last thirty years. This trend appears likely to continue. Even with the recent run-up in production capability and profits, as recent as the fall of 2007 the industry was plagued by low ethanol prices which halted some projects.

High oil prices have been a driver to the ethanol boom and are predicted to continue for the near future but could fall due to lowered demand. Low corn prices has been another cause for the ethanol boom but may be changing. With greater demand for corn from ethanol production, corn prices have rose dramatically, which could hamper further ethanol industry expansion. Government support has also been critical to ethanol success. This support appears to be continuing at both the federal and state level.

The profitability of ethanol appears to be highly dependent upon the \$0.51 per gallon subsidy. Studies have shown that the industry could be profitable without the subsidy but is considerably more profitable with the subsidy. The high levels of profits seen in the industry will most likely decline. This is due to the high profits attracting further investment in the industry, increasing competition and lowering ethanol prices, until a more normal rate of return is achieved.

The future of ethanol is somewhat unclear. Proponents believe it to be a part of the answer to the country's oil crisis, while opponents believe that the cost to taxpayer's is too much. A few changes related to the ethanol industry that have been hypothesized by experts in the field include (1) a large portion of future research and money will be directed towards cellulosic ethanol, (2) a portion of the higher prices that growers are receiving for corn will be transferred to landowners in the form of higher rents and land prices, and (3) a potential increased presence of the beef industry in the corn belt to take advantage of ethanol plant co-products.

## Appendix A. U.S. Ethanol Plants

Company	City	State	Feedstock	Capacity (mgy)	Under Construction/Ex pansions (mgy)
Abengoa Bioenergy Corp.	York	NE	Corn/milo	55	
	Colwich	KS		25	
	Portales	NM		30	
	Ravenna	NE		88	
Aberdeen Energy*	Mina	SD	Corn		100
Absolute Energy, LLC*	St. Ansgar	IA	Corn		100
ACE Ethanol, LLC	Stanley	WI	Corn	41	
Adkins Energy, LLC*	Lena	IL	Corn	40	
Advanced Bioenergy	Fairmont	NE		100	
AGP*	Hastings	NE	Corn	52	
Agri-Energy, LLC*	Luverne	MN	Corn	21	
Al-Corn Clean Fuel*	Claremont	MN	Corn	35	15
Amaizing Energy, LLC*	Denison	IA	Corn	48	
	Atlantic	IA	Corn		110
Archer Daniels Midland (ADM)	Decatur	IL	Corn	1070	550
	Cedar Rapids	IA	Corn		
	Clinton	IA	Corn		
	Columbus	NE	Corn		
	Marshall	MN	Corn		
	Peoria	IL	Corn		
	Wallhalla	ND	Corn/barley		
Arkalon Energy, LLC	Liberal	KS	Corn		110
Aventine Renewable Energy, LLC	Pekin	IL	Corn	207	226
	Aurora	NE	Corn		
	Mt. Vernon	IN	Corn		
Badger State Ethanol, LLC*	Monroe	WI	Corn	48	
Big River Resources, LLC*	West Burlington	IA	Corn	52	
BioFuel Energy - Pioneer Trail Energy, LLC	Wood River	NE	Corn		115
BioFuel Energy - Buffal Lake Energy, LLC	Fairmont	MN	Corn		115
Blue Flint Ethanol	Underwood	ND	Corn	50	
Bonanza Energy, LLC	Garden City	KS	Corn/milo	55	
Bushmills Ethanol, Inc.*	Atwater	MN	Corn	40	
Cardinal Ethanol	Harrisville	IN	Corn		100
Cargill, Inc.	Blair	NE	Corn	85	
	Eddyville	IA	Corn	35	
Cascade Grain	Clatskanie	OR	Corn		108
Castle Rock Renewable Fuels, LLC	Necedah	WI	Corn		50
			Sugar cane		
Celunol	Jennings	LA	bagasse		1.5
Center Ethanol Company	Sauget	IL	Corn		54
Central Indiana Ethanol, LLC	Marion	IN	Corn	40	
Central Illinois Energy, LLC	Canton	IL	Corn		37



## Appendix A. U.S. Ethanol Plants

Company	City	State	Feedstock	Capacity (mgy)	Under Construction/Expansions (mgy)
Central MN Ethanol Coop*	Little Falls	MN	Corn	21.5	
Chief Ethanol	Hastings	NE	Corn	62	
Chippewa Valley Ethanol Co.*	Benson	MN	Corn	45	
Cilion Ethanol	Keyes	CA	Corn		50
Commonwealth Agri-Energy, LLC*	Hopkinsville	KY	Corn	33	
Corn, LP*	Goldfield	IA	Corn	50	
Cornhusker Energy Lexington, LLC	Lexington	NE	Corn	40	
Corn Plus, LLP*	Winnebago	MN	Corn	44	
Coshoctan Ethanol, OH	Coshoctan	OH	Corn		60
Dakota Ethanol, LLC*	Wentworth	SD	Corn	50	
DENCO, LLC	Morris	MN	Corn	21.5	
E Energy Adams, LLC	Adams	NE	Corn	50	
E Caruso (Goodland Energy Center)	Goodland	KS	Corn		20
East Kansas Agri-Energy, LLC*	Garnett	KS	Corn	35	
Elkhorn Valley Ethanol, LLC	Norfolk	NE	Corn	40	
ESE Alcohol Inc.	Leoti	KS	Seed corn	1.5	
Ethanol Grain Processors, LLC	Obion	TN	Corn		100
First United Ethanol, LLC (FUEL)	Mitchell County	GA	Corn		100
Front Range Energy, LLC	Windsor	CO	Corn	40	
Gateway Ethanol	Pratt	KS	Corn	55	
Glacial Lakes Energy, LLC*	Watertown	SD	Corn	100	
Global Ethanol/Midwest Grain Processors	Lakota	IA	Corn	95	
	Riga	MI	Corn	57	
			Cheese		
Golden Cheese Company of California*	Corona	CA	whey	5	
Golden Grain Energy, LLC*	Mason City	IA	Corn	110	50
Golden Triangle Energy, LLC*	Craig	MO	Corn	20	
Grand River Distribution	Cambria	WI	Corn		40
Grain Processing Corp.	Muscatine	IA	Corn	20	
Granite Falls Energy, LLC*	Granite Falls	MN	Corn	52	
Greater Ohio Ethanol, LLC	Lima	OH	Corn		54
Green Plains Renewable Energy	Shenandoah	IA	Corn	50	
	Superior	IA	Corn		50
Hawkeye Renewables, LLC	Iowa Falls	IA	Corn	105	
	Fairbank	IA	Corn	115	
	Menlo	IA	Corn		100
	Shell Rock	IA	Corn		110
Heartland Corn Products*	Winthrop	MN	Corn	100	
Heartland Grain Fuels, LP*	Aberdeen	SD	Corn	9	
	Huron	SD	Corn	12	18
Heron Lake BioEnergy, LLC	Heron Lake	MN	Corn		50
Holt County Ethanol	O'Neill	NE	Corn		100
Husker Ag, LLC*	Plainview	NE	Corn	26.5	

## Appendix A. U.S. Ethanol Plants

Company	City	State	Feedstock	Capacity (mg/y)	Under Construction/Ex pansions (mg/y)
Idaho Ethanol Processing	Caldwell	ID	Potato Waste	4	
Illinois River Energy, LLC	Rochelle	IL	Corn	50	
Indiana Bio-Energy	Bluffton	IN	Corn		101
Iroquois Bio-Energy Company, LLC	Rensselaer	IN	Corn	40	
KAAPA Ethanol, LLC*	Minden	NE	Corn	40	
Kansas Ethanol, LLC	Lyons	KS	Corn		55
Land O' Lakes*	Melrose	MN	Cheese whey	2.6	
Levelland/Hockley County Ethanol, LLC	Levelland	TX	Corn		40
Lifeline Foods, LLC	St. Joseph	MO	Corn	40	
Lincolnland Agri-Energy, LLC*	Palestine	IL	Corn	48	
Lincolnway Energy, LLC*	Nevada	IA	Corn	50	
Little Sioux Corn Processors, LP*	Marcus	IA	Corn	52	
Marquis Energy, LLC	Hennepin	IL	Corn		100
Marysville Ethanol, LLC	Marysville	MI	Corn		50
Merrick & Company	Golden	CO	Waste beer	3	
MGP Ingredients, Inc.	Pekin	IL	Corn/wheat starch	78	
	Atchison	KS			
Mid America Agri Products/Wheatland	Madrid	NE	Corn		44
Mid-Missouri Energy, Inc.*	Malta Bend	MO	Corn	45	
Midwest Renewable Energy, LLC	Sutherland	NE	Corn	25	
Minnesota Energy*	Buffalo Lake	MN	Corn	18	
NEDAK Ethanol	Atkinson	NE	Corn		44
New Energy Corp.	South Bend	IN	Corn	102	
North Country Ethanol, LLC*	Rosholt	SD	Corn	20	
Northeast Biofuels	Volney	NY	Corn		114
Northwest Renewable, LLC	Longview	WA	Corn		55
Otter Tail Ag Enterprises	Fergus Falls	MN	Corn		57.5
Pacific Ethanol	Madera	CA	Corn	40	
	Boardman	OR	Corn	40	
	Burley	ID	Corn		50
	Stockton	CA	Corn		50
Panda Ethanol	Hereford	TX	Corn/milo		115
Parallel Products	Louisville	KY	Beverage waste	5.4	
	R. Cucamonga	CA			
Patriot Renewable Fuels, LLC	Annawan	IL	Corn		100
Penford Products	Cedar Rapids	IA	Corn		45
Phoenix Biofuels	Goshen	CA	Corn	25	
Pinal Energy, LLC	Maricopa	AZ	Corn	55	
Pine Lake Corn Processors, LLC*	Steamboat Rock	IA	Corn	20	
Plainview BioEnergy, LLC	Plainview	TX	Corn		100

## Appendix A. U.S. Ethanol Plants

Company	City	State	Feedstock	Capacity (mgy)	Under Construction/Ex pansions (mgy)
Platinum Ethanol, LLC*	Arthur	IA	Corn		110
Plymouth Ethanol, LLC*	Merrill	IA	Corn		50
POET	Sioux Falls	SD		1110	375
	Alexandria	IN	Corn		#
	Ashton	IA	Corn		
	Big Stone	SD	Corn		
	Bingham Lake	MN	Corn		
	Caro	MI	Corn		
	Chancellor	SD	Corn		
	Coon Rapids	IA	Corn		
	Corning	IA	Corn		
	Emmetsburg	IA	Corn		
	Fostoria	OH	Corn		#
	Glenville	MN	Corn		
	Gowrie	IA	Corn		
	Groton	SD	Corn		
	Hanlontown	IA	Corn		
	Hudson	SD	Corn		
	Jewell	IA	Corn		
	Ladonia	MO	Corn		
	Lake Crystal	MN	Corn		
	Leipsic	OH	Corn		#
Macon	MO	Corn			
Marion	OH	Corn		#	
Mitchell	SD	Corn			
North Manchester	IN	Corn		#	
Portland	IN	Corn			
Preston	MN	Corn			
Scotland	SD	Corn			
Prairie Horizon Agri-Energy, LLC	Phillipsburg	KS	Corn	40	
Quad-County Corn Processors*	Galva	IA	Corn	27	
Range Fuels	Soperton	GA	Wood Waste		20
Red Trail Energy, LLC	Richardton	ND	Corn	50	
Redfield Energy, LLC *	Redfield	SD	Corn	50	
Reeve Agri-Energy	Garden City	KS	Corn/milo	12	
Renew Energy	Jefferson Junction	WI	Corn		130
Siouxland Energy & Livestock Coop*	Sioux Center	IA	Corn	25	35
Siouxland Ethanol, LLC	Jackson	NE	Corn	50	
Southwest Iowa Renewable Energy, LLC *	Council Bluffs	IA	Corn		110
Sterling Ethanol, LLC	Sterling	CO	Corn	42	
Tate & Lyle	Loudon	TN	Corn	67	38
	Ft. Dodge	IA	Corn		105
The Andersons Albion Ethanol LLC	Albion	MI	Corn	55	

## Appendix A. U.S. Ethanol Plants

Company	City	State	Feedstock	Capacity (mgy)	Under Construction/Ex pansions (mg)
The Andersons Clymers Ethanol, LLC	Clymers	IN	Corn	110	
The Andersons Marathon Ethanol, LLC	Greenville	OH	Corn		110
Tharaldson Ethanol	Casselton	ND	Corn		110
Trenton Agri Products, LLC	Trenton	NE	Corn	40	
United Ethanol	Milton	WI	Corn	52	
United WI Grain Producers, LLC*	Friesland	WI	Corn	49	
US BioEnergy Corp.	Albert City	IA	Corn	310	440
	Woodbury	MI	Corn		
	Hankinson	ND	Corn		#
	Central City	NE	Corn		#
	Ord	NE	Corn		
	Dyersville	IA	Corn		#
	Janesville	MN	Corn		#
	Marion	SD	Corn		
U.S. Energy Partners, LLC (White Energy)	Russell	KS	Milo/wheat		
			starch	48	
Utica Energy, LLC	Oshkosh	WI	Corn	48	
VeraSun Energy Corporation	Aurora	SD	Corn	560	330
	Ft. Dodge	IA	Corn		
	Albion	NE	Corn		
	Charles City	IA	Corn		
	Linden	IN	Corn		
	Welcome	MN	Corn		#
	Hartely	IA	Corn		#
	Bloomington	OH	Corn		#
Western New York Energy, LLC	Shelby	NY	Corn	50	
Western Plains Energy, LLC*	Campus	KS	Corn	45	
Western Wisconsin Renewable Energy, LLC*	Boyceville	WI	Corn	40	
White Energy	Hereford	TX	Corn/Milo		100
Wind Gap Farms	Baconton	GA	Brewery		
			waste	0.4	
Renova Energy	Torrington	WY	Corn	5	
	Hayburn	ID	Corn		20
Xethanol BioFuels, LLC	Blairstown	IA	Corn	5	
Yuma Ethanol	Yuma	CO	Corn	40	

Total Current Capacity at 134 ethanol biorefineries

7265.4

Total Under Construction (66)/Expansions (10)

6206.9

Total Capacity

13472.3

\* locally-owned

# plant under construction

As of January 4, 2008

Source: Renewable Fuels Association

## Appendix B. Illinois Ethanol Plant Permits

Plant	City	Size (million gal/year)	Application Submitted	Permit Issued
Ewings Renewables	Quincy	130	8/28/2007	N/A
US Bio Marshall LLC	Marshall	120	7/5/2007	N/A
Alternative Energy Sources, Inc.	Greenville	120	4/13/2007	8/6/2007
Litchfield Trail Energy	Litchfield	124	2/21/2007	8/6/2007
Alternative Energy Sources, Inc.	Kankakee	120	2/8/2007	6/22/2007
Ag Energy Resources	Benton	5	2/5/2007	N/A
Henry Renewable Fuels LLC	Henry	114	2/1/2007	8/17/2007
VeraSun Litchfield LLC	Litchfield	120	1/11/2007	N/A
Emerald Renewable Energy - Havana LLC	Havana	115	1/8/2007	N/A
Havana Ethanol LLC	Havana	115	2/1/2007	7/6/2007
Emerald Renewable Energy - Tuscola LLC	Tuscola	115	12/26/2006	N/A
Bunge North America	Fowler	115	12/21/2006	N/A
VeraSun Granite City LLC	Granite City	120	12/21/2006	N/A
Invenergy Nelson LLC	Rock Falls	118	12/7/2006	N/A
MOR Energy LLC	Pulaski	113	12/27/2006	N/A
U.S. Ethanol Holdings	Chenoa	110	12/13/2006	7/26/2007
Illini Cropland and Ethanol LLC	Grayville	60	12/8/2006	5/30/2007
Aventine Renewable Energy	Pekin	108 (Expansion)	11/8/2006	N/A
Fulton Ethanol LLC	Fulton	125	10/17/2006	N/A
Carroll County Ethanol	Thomson	110	9/28/2006	6/5/2007
American Ethanol - Allen Station	San Jose	118	9/28/2006	6/5/2007
BioFuels Energy LLC	Gilman	118	9/18/2006	6/28/2007
Waltonville Ethanol	Waltonville	118	9/18/2006	4/10/2007
Abengoa Bioenergy of Illinois, LLC	Madison	118	9/15/2006	4/10/2007
American Ethanol Inc.	Gilman	118	9/14/2006	3/30/2007
American Ethanol Inc.	Litchfield	118	9/14/2006	3/30/2006
American Ethanol Inc.	Stillman Valley	118	9/14/2006	4/4/2007
Diamon Ethanol LLC	Charleston	60	9/13/2006	2/21/2007
Emerald Ethanol LLC	Streator	60	9/13/2006	2/21/2007
Prairie Breeze Ethanol LLC	Beardstown	60	9/6/2006	2/21/2007
Algonquian Ethanol LLC	Princeton	113	9/6/2006	7/11/2007
Waverly Ethanol LLC	Waverly	110	9/1/2006	N/A
Baldwin Ethanol LLC	Baldwin	110	8/25/2006	4/20/2007
Gateway Energy LLC	Alton	108	8/25/2006	5/25/2007
Winnebago County Ethanol Plant	Rockford	118	8/23/2006	8/14/2007
American Ethanol Inc.	Danville	118	8/9/2006	3/30/2007
Big River Resources - Galva LLC	Galva	110	7/21/2006	6/18/2007
Illini Ethanol, LLC	Royal	110	6/30/2006	1/18/2007
Ford Heights Ethanol, LLC	Ford Heights	60	6/21/2006	7/31/2007
Illinois River Energy LLC	Rochelle	55 (expansion)	6/13/2006	4/18/2007
Illini Bio-Energy LLC	Hartsburg	110	5/25/2006	5/15/2007
Western Illinois Ethanol	Griggsville	110	5/19/2006	1/18/2007
The Andersons Champaign Ethanol	Champaign	125	5/18/2006	6/20/2007
One Earth Energy LLC	Gibson City	118	5/15/2006	5/7/2007
Illinois Valley Ethanol LLC	Dwight	118	5/15/2006	5/7/2007
Danville Renewable Energy LLC	Danville	118	3/30/2006	12/8/2006

## Appendix B. Illinois Ethanol Plant Permits

Plant	City	Size (million gal/year)	Application Submitted	Permit Issued
Kankakee Renewable Energy LLC	Kankakee	118	3/30/2006	3/15/2007
Center Ethanol Production LLC	Sauget	60	3/7/2006	8/18/2006
Marquis Energy LLC	Hennepin	110	2/8/2006	8/28/2006
Patriot Renewable Fuels	Annawan	110	1/27/2006	10/5/2006
Midwest-Agri Energy LLC	Salem	101	1/24/2006	8/22/2007
Renewable Power LLC	Wayne City	84	1/10/2006	7/20/2006

Source: Illinois Environmental Protection Agency

## Appendix C E-85 Fueling Stations in Illinois

City	Name	Address	City	Name	Address
Argonne	Argonne National Lab	9700 South Cass Ave.	Delavan	USCO	201 East 4th Street
Albion	Albion Knapp Mart	4th Street & Elm	Des Plaines	Speedway	855 E Touhy Ave
Aledo	Blick & Blick Oil	203 SE 5th Ave	Dixon	Shell Station	1250 Franklin Grove Rd
Alhambra	Meadges Mini Mart	709 E Main	Dixon	Marathon	315 W Everett Street
Altamont	Effingham Equity	905 S Main	Dunlap	USCO	Route 91
Alton	Zepher Express	1110 E Broadway	Dwight	Beckers BP has E85	Interstate 55 & Route 47
Arlington Heights	Marathon	815 W Rand Road	Dwight	Beckers BP	Northbrook Drive
Aurora	Thorton Oil selling E85	2800 Ogden Ave	Dyer	Gas City offering E85	10061 Sheffield
Bartonville	Apollo Mart	2136 S Airport Road	Effingham	Martins IGA	503 W Jefferson St
Batavia	Fermi National Lab		Eldorado	ROC One Stop	1100 N HWY 45
Blandinsville	Minit Stop has E85	400 E Washington St.	Elgin	Petroliance	739 N State
Bloomington	F/S Farmtown	1808 Morrissey Drive	Elgin	Marathon	1126 Larkin Ave
Bloomington	Quick -N-EZ	1607 Morrissey	Elmhurst	Clark Oil	926 N York Rd
Bloomington	PM Shell	2401 E Oakland Av	Evanston	Clark Station has E85	2401 Dempster Rd
Bunker Hill	Short Stop	702 South Washington	Fairfield	Gas For Less	603 S 1rst Street
Bushnell	USCO	335 Cole Street	Forreston	Depot Station	341 Main Street
Canton	USCO	509 South 5th Ave	Frankfort	Gas City has E85	11151 West Lincoln hwy
Carlyle	CC Mart	1310 Franklin	Frankfort	Gas City	19730 South Harlem
Centralia	Knapp Mart	100 N. Broadway St.	Frankfort	Gas City	855 S Center Rd
Champaign	Super Pantry	59 E Green	Frankfort	Gas City	22310 S LaGrange Rd
Champaign	Meijer	2201 N Prospect Ave	Freeport	Crestwood Marathon	Sleezer Home Drive
Chicago	Gas City has E85	4070 N Clark Street	Galatia	ROC One Stop	200 E Main Street
Chicago	IDOT Landscaping	1260 W Augusta Blvd	Geneseo	Hometown Express	365 Hwy 6 east
Chicago	Kean Oil	2632 W 111 th Street	Gibson City	Gibson City Fuel	Rt 9 & 54
Chrisman	Chrisman Fuel offering E85	15725 US HWY 36	Golden	Fast Shop	202 hwy 94
Cisne	Knapp Mart	RT 45 & Simpson St.	Great Lakes	Midwest Naval Facility	2415 Saulding
Clay City	Knapp Mart	RT 50 & South Main	Griggsville	Logan Agri-Service	Route 107 S
Collinsville	Lowels Station	2000 Vandalia Street	Harrisburg	ROC One Stop	409 N Commercial St.
Crystal Lake	Murphy	1205 South Rt 21	Harrisburg	Southern FS	5 West Robinson Street
Danville	Food Shop	510 Gilbert	Harrisburg	Knapp Mart	614 South Commercial
Dekalb	Hintzscshe Oil	880 Peace Rd	Hillsdale	Express Lane	32000 IL Route 2
Decatur	Pacific Pride	3117 North 22nd St.	Hobart	Gas City selling E85	6325 East Hwy 30
Dekalb	Hintzscshe Oil	880 Peace Rd	Homer Glen	Gas City	12502 W 143rd Street

## Appendix C. E-85 Fueling Stations in Illinois

City	Name	Address	City	Name	Address
Homer Glen	Gas City	15060 South Bell Rd	Morrison	FS Fast Stop	615 E Lincolnway
Homer Glen	Gas City	15551 W 143rd Street	Mount Prospect	Marathon has E85	310 W Northwest HWY
Ina	Lakeview General Store	201 North Ave	Mt Vernon	Razzles	1801 South 10th
Jacksonville	Clark Station	103 Comfort Drive	Murphysboro	Toms Fuel	503 Walnut Street
Joliet	Gas City has E85 Fuel	17100 W Laraway Rd	Naperville	Gas City	3004 Reflection Drive
Kankakee	Gas City	2925 Riverstone Pkwy	Nashville	KnappMart	17970 Mockingbird Rd
Lanark	Carroll Service	505 W Route 64	Neoga	Fuel Mart	1095 Route 45
Lena	Nollers Food Pride	201 Dodds Drive	New Lenox	Gas City	939 S Cedar Rd
Litchfield	Road Ranger	90 E Roosevelt RD	Normal	Quick N EZ	1510 E Vernon
Litchfield	Wolf Oil	1511 Old Route 66 N	Normal	Quick n EZ	1609 N Main
Lincoln	Quick n EZ	520 Keokuk	Normal	Meijer	1800 E College
Lombard	Road Ranger	909 E Roosevelt Rd	North Aurora	Woodmans	151 Hampton Blvd
Loves Park	Grand Prix E85	7997 Forest Hills Rd	Oquaka	Fast Stop	Corner 164 & 94
Loves Park	Road Ranger	8096 Forest Hills Rd	Orland Hills	Gas City	16707 LaGrange RD
Mahomet	Beyond Petroleum	204 Lombard	Orland Hills	Gas City	9390 W 171 rst St
Manteno	Gas City	9051 N Route	Orlando Park	Shell	14301 Wolf Rd
Maple Park	Hintzsche	2 South 181 County Line Rd	Oswego	Gas City E85	4032 U.S. Hwy. 34
Marion	Gas For Less	714 West Main St	Ottawa	Thortons	102 W Etna
Marshall	Jiffy Mini Mart	1804 HWY 1	Palatine	Palatine Oil-Marathon	515 W Colfax
Marshall	Citgo	105 S Michigan	Palos Park	Gas City	13059 S LaGrange
Mason City	Fuel 24 has E85	1016 W Chestnut St.	Pana	Quick n EZ	301 S Poplar
McHenry	Cardrol	4019 Main Street	Pekin	USCO	Route 29
Mcleansboro	ROC One Stop	100 E Randolph Street	Pekin	USCO	801 South Second
Medora	Mini Mart	HWY 111	Peoria (East)	Thortons	107 W Spring Creek Rd
Metropolis	Knapp Mart	1117 E 5th Street	Peru	Sapp Brothers	3130 May Rd
Mokena	Gas City has E85	18701 Wolf Rd	Peru	Murphy	Corner 251 & Unyrite
Mokena	Gas City	19855 S LaGrange Rd	Pontiac	Meijer	1226 N Division
Monee	Gas City	25515 S route 45	Poplar Grove	Marathon E85 Ethanol Fuel	13165 Rt 76
Monmouth	Triple E	1010 N Main St	Posen	Petro Kanisa	3033 W 147th St
Monroe Center	BP	5534 N. Limestone Rd.	Princeton	Fast Stop	720 N Main Street
Monticello	FS Fast Stop	427 W Marion	Prophetstown	Mini Mart	202 Washington St



### Appendix C. E-85 Fueling Stations in Illinois

City	Name	Address	City	Name	Address
Quincy	Jiffi Stop	1401 N 24th Street	Tremont	Tremont Oil	201 E Pearl St
Riverside	Minuteman	3346 South Harlem	Urbana	Food Shop	1701 Philco Rd
Rockfalls	Shell	1111 Route 30	Vandalia	Fast Stop	1800 Hillsboro
Rockford	Phillips 66	4545 Sandy Hollow Rd	Vienna	Veach Truck Stop	Corner 37 & 146
Rockford	Super Pantry	3819 Broadway St	Villa Park	Marathon E85 Fuel	149 W St Charles Rd
Rockford	Road Ranger	4106 Harrison	Virginia	Cenex now has E85	352 N Morgan St
Rockford	Shell	4740 Baxter Rd	Warrenville	Gas City	3 S 405 Route 59
Romeoville	Gas City	1300 West Normantown Rd	Waterloo	Fast Stop	509 Park Street
Roseville	Fuel 24 selling E85	764 90th Ave	West Franfort	Gas for Less	511 W Main St
Rushville	Fuel 24	320 N Congress	Willow Springs	Gas City	8424 Willow Springs RD
Salem	Salem Knapp Mart	500 South Broadway	Williamsfield	Fast Stop E85 Available	218 Illinois Route 180
Schaumburg	Gas City selling E85	Higgins & Plum Grove	Winthrop Harbor	Marathon	901 N Sheridan Rd
Shorewood	Gas city	Rt 59 & Black Road	Wood Dale	Citgo	217 E Irving Park Rd
Shelbyville	Quick n EZ	615 N Cedar	Woodhull	Shell	Corner HWY 17 & 74
Silvis	Fast Stop	1601 1rst Ave			
Skokie	Shell	3301 W Howard			
Sparta	Fuel 24	617 S St Louis St			
Springfield	Quick N EZ	2800 Peoria Rd			
Springfield	Quick N EZ	430 N Grand Ave E			
Springfield	Illinois State Motor Pool	101 W Washington			
Springfield	Quick N EZ	1101 Stevenson Drive			
Springfield	Illinois State Motor Pool	200 E Ash			
Springfield	Quick N EZ	1995 West Monroe St			
Springfield	Quick n EZ	1230 Toronto RD			
Stewardson	Knapp Mart	32nd & Main			
Stickney	Minuteman	4901 S Central Ave			
Stockton	Travel Center	601 N East Ave			
Taylorville	Fuel 24 has E85 Fuel	1200 N Cheney			
Tinley Park	Gas City Ethanol E85	18460 80th Ave			

Source: www.e85vehicles.com

## **BACKGROUND**

**The Commission on Government Forecasting and Accountability (CGFA), a bipartisan, joint legislative commission, provides the General Assembly with information relevant to the Illinois economy, taxes and other sources of revenue and debt obligations of the State. The Commission's specific responsibilities include:**

- 1) Preparation of annual revenue estimates with periodic updates;
- 2) Analysis of the fiscal impact of revenue bills;
- 3) Preparation of "State Debt Impact Notes" on legislation which would appropriate bond funds or increase bond authorization;
- 4) Periodic assessment of capital facility plans;
- 5) Annual estimates of public pension funding requirements and preparation of pension impact notes;
- 6) Annual estimates of the liabilities of the State's group health insurance program and approval of contract renewals promulgated by the Department of Central Management Services;
- 7) Administration of the State Facility Closure Act.

The Commission also has a mandate to report to the General Assembly ". . . on economic trends in relation to long-range planning and budgeting; and to study and make such recommendations as it deems appropriate on local and regional economic and fiscal policies and on federal fiscal policy as it may affect Illinois. . . ." This results in several reports on various economic issues throughout the year.

**The Commission publishes several reports each year. In addition to a Monthly Briefing, the Commission publishes the "Revenue Estimate and Economic Outlook" which describes and projects economic conditions and their impact on State revenues. The "Bonded Indebtedness Report" examines the State's debt position as well as other issues directly related to conditions in the financial markets. The "Financial Conditions of the Illinois Public Retirement Systems" provides an overview of the funding condition of the State's retirement systems. Also published are an Annual Fiscal Year Budget Summary; Report on the Liabilities of the State Employees' Group Insurance Program; and Report of the Cost and Savings of the State Employees' Early Retirement Incentive Program. The Commission also publishes each year special topic reports that have or could have an impact on the economic well being of Illinois. All reports are available on the Commission's website.**

These reports are available from:

Commission on Government Forecasting and Accountability  
703 Stratton Office Building  
Springfield, Illinois 62706  
(217) 782-5320  
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