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BUSINESS sphere

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Ethanol Flows from Iowa's Big River Resources

What if you could wave a magic wand and completely eliminate the annual greenhouse gas (GHG) emissions produced by nearly one million motor vehicles? That's just what the magicians of the ethanol industry did in 2003 alone. The use of the clean-burning, corn-based fuel eliminated more than 5.7 million tons of GHG pollutants from our environment. Far from being an illusion, the ethanol industry is the real deal. Especially in Iowa and especially at the Big River Resources ethanol plant in West Burlington.

2004 was a year of firsts for the $60-million Big River ethanol facility–which will annually consume approximately 15 million bushels of corn to produce 45 million gallons of ethanol.

"We produced our first ethanol in April 2004, 10 weeks ahead of schedule," says Rick Brehm, Big River general manager. "One month later, rail cars loaded with it left our plant heading to California. At the same time a barge loaded with 1,400 tons of distillers dried grain–a co-product of ethanol production–started down the Mississippi River for delivery to Ireland."

Ethanol is a booming business in Iowa. According to a report by Iowa State University, the state's 14 ethanol plants provide more than 3,700 jobs, while processing approximately $910 million worth of corn. The result is $2.6 billion in sales of ethanol and distillers dried grain, a high-protein co-product used for livestock feed rations.

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Iowa first in ethanol

Iowa is now the largest ethanol-producing state in America, according to the Iowa Corn Promotion Board, with 864 million gallons of production capacity. Fourteen facilities now produce ethanol in Iowa, and nine more plants are planned or under construction. This burgeoning renewable fuels industry continues to spread through the state of Iowa.

Why Iowa is becoming the leading ethanol producer . . .

Raw Materials

Growth of the ethanol industry is strengthening and building on Iowa's leadership in agriculture. Iowa's corn and soybean production typically surpasses every other state. A natural wealth of plant waste and biomass materials associated with grain and livestock production is ready to drive unprecedented expansion of the renewable fuels industry.

Transportation

Iowa's location in the heart of North America puts the markets of an entire continent within easy reach by railroad and interstate highways. Barge shipments are also possible on the Mississippi and Missouri rivers.

Tax Benefits

The New Jobs and Income Program (NJIP), New Capital Investment Program (NCIP) and Enterprise Zones provide tax credits and refunds of sales taxes on construction services associated with the building of a production facility. In addition, local property tax exemptions may be extended to projects.

Financial Incentives

The Value-Added Agricultural Products and Processes Financial Assistance Program (VAAPFAP) provides financial assistance for the development of renewable fuel production facilities such as ethanol or biodiesel facilities that yield co-products used for livestock feed.

Site Selection Assistance

Project managers of the Iowa Department of Economic Development offer free and confidential services to identify possible locations for new ethanol production facilities with access to transportation, utilities and water.

Contact the Iowa Department of Economic Development at 1.800.245.IOWA (4692) for plant location assistance that begins at the moment you call. Ask for a project manager. We're also on the web at www.iowalifechanging.com

Expansion Will Double Capacity of Iowa's Midwest Grain Processors

As another 50-car train, carrying more than one million gallons of 200-proof ethanol, slowly departs from the Midwest Grain Processors ethanol facility, Scott Swanson, MGP marketing manager, knows he and MGP's approximately 1,000 members are doing their part to help the United States achieve energy independence.

Since the company's first batch of ethanol was fermented in November 2002, Swanson says the MGP facility has shipped more than 100 million gallons of ethanol to petroleum refineries in Western and Southwestern states. Once there, the corn-based fuel is blended with gasoline as an octane booster and fuel oxygenate.

"We also have local jobbers blending our product with gas supplies for use throughout the Midwest," Swanson says. And soon, even more ethanol will be produced at MGP's Lakota, Iowa, facility. The cooperative is in the midst of an expansion that will double its current annual capacity from 50 million gallons to 100 million gallons.

When it's completed in December 2005, more than 32 million bushels of corn will be processed each year to produce the environmentally friendly fuel additive.

Swanson says there are several factors fueling the ethanol boom. "MTBE, a petroleum-based additive for gasoline, is being phased out in California, New York and Connecticut," he says. "More importantly, oil prices are hovering around $45 a barrel, so oil companies can save money by blending ethanol with their product."

MGP is in the midst of an equity drive to raise $16 million for the expansion. Helping the cooperative was an award of $520,000 from Iowa's Value-Added Agricultural Products & Processes Financial Assistance Program (VAAPFAP), administered by the Iowa Department of Economic Development. The cooperative is also receiving a series of tax refunds, abatements and credits from the IDED-administered New Jobs and Income Program (NJIP).

Swanson believes that, as a renewable fuel, ethanol is an instrumental part in reducing U.S. dependence on foreign oil. "Ethanol could easily replace 10 percent of our foreign oil imports. That would substantially help our economy and our environment," he says.

The proof of Swanson's statement–all 200 of it–can be seen in every 50-car train of ethanol that leaves the MGP facility for refineries throughout the United States. ■

If you'd like more information on VAAPFAP, NJIP or any of Iowa's financial assistance programs, contact an IDED marketing manager at 800.245.IOWA (4692) for a confidential consultation, or visit www.iowalifechanging.com.

A Bright Future for Iowa's Siouxland Energy

When Bernie Punt looks around he sees not only cornfields surrounding the Siouxland Energy & Livestock Cooperative ethanol facility he also sees a constant supply of feedstock for the plant. And when he looks at the plant's nearby railroad track, he sees an efficient mode of transporting his output to a national customer base.

Punt is general manager of SELC, a three-year-old ethanol plant located in the northwest Iowa community of Sioux Center. The plant, owned by approximately 400 producer-owners, transforms eight million bushels of corn annually into 22 million gallons of ethanol.

"When blended with gasoline, ethanol is a proven octane enhancer and fuel oxygenate," says Punt. "Its use reduces harmful vehicle emissions, ozone pollution, and greenhouse-gas forming emissions." Punt adds that two-thirds of SELC's ethanol is shipped by rail to destinations in the Mountain West and West Coast states, with the remaining output trucked to locations in the Midwest.

Along with ethanol, the SELC facility also produces high-value wet distillers grain and syrup. "Wet distillers grain and syrup are what remains of the corn once the ethanol producing starch is removed," explains Punt. "These products, which are very high in protein, are excellent for use in livestock feed. Local beef and dairy operations use a majority of the wet distillers grain and syrup produced at our plant."

Including the SELC facility, Iowa has 14 ethanol plants in operation, with another nine in various stages of progress. When those become operational, Iowa alone will soon hit one billion gallons in annual ethanol production capacity, helping clinch Iowa's status as the No.1 ethanol producer in the nation.

SELC works closely with Colwich, Kan.-based ICM, one of the world's premier design/engineering firms of ethanol processing facilities, to implement the latest fermentation technology as it becomes available.

"We are equipped with state-of-the-art technology in our facility," says Punt. "Our goal is to squeeze every drop of ethanol from every kernel of corn, while cutting energy and enzyme costs."

The ethanol facility, a $16.8 million project, received benefits from Iowa's New Jobs and Income Program (NJIP). Administered by the Iowa Department of Economic Development, NJIP provides a series of tax exemptions, credits and refunds to qualifying companies that meet job creation and investment criteria.

Bernie Punt is bullish about the future of ethanol in general and of SELC in particular.

"The increased demand for octane and clean-blending components to replace MTBE in gasoline bodes well for ethanol in general," he says. "SELC will thrive because our facility is technologically advanced, we are situated in one of the top corn-producing areas of the United States, and we have many dairy, beef and hog producers who need our co-products. We feel our–and ethanol's–future is bright." ■

Broin Companies Announces Revolutionary Ethanol Technology

The Broin Companies recently announced the creation of an exciting new patent-pending technology that eliminates a costly energy-consuming cooking step in the ethanol production process. According to Jeff Broin, CEO of the Broin Companies, the Broin Project X (BPX) process not only reduces energy costs but also releases additional starch content for conversion to ethanol, increases protein content and quality of co-products, increases co-product flowability, potentially increases plant throughput and decreases plant emissions.

“The BPX process may be the biggest breakthrough in starch conversion to ethanol in more than 100 years. We have already implemented the process commercially in several major U.S. ethanol plants with excellent results,” says Broin.

Developed in Broin laboratories and optimized in the company’s production scale research facility, Broin has filed patents for the BPX process and for the use of enabling enzymes for the revolutionary new conversion process. The company collaborated with Novozymes, a leading developer and marketer of starch conversion enzymes to the ethanol industry, to develop the new enzyme products that enhance the BPX process. ■

Iowa’s Tall Corn Fuels
Tall Corn Ethanol Plant

The corn fields in the eight counties that surround and supply the Tall Corn Ethanol, LLC, in the west-central Iowa community of Coon Rapids, grow about 200 million bushels of corn annually. "About 50 million is consumed by livestock locally," says Owen Shunkwiler, TCE general manager. "That means there are 150 million bushels shipped out of the area. We are going to keep some of that grain here, add value to it, and increase the income of area farmers."

Since beginning operations in July 2002, TCE has been doing just that. The plant, which hit its 40-million annual gallon nameplate after only 12 days, processes more than 15 million bushels of corn annually to make the fuel.

The facility, designed, built and managed by Sioux Falls, S.D.-based Broin Companies, will soon be capturing even more value from that corn. TCE is in the midst of an expansion that will add more than $20 million of new technology to the dry-mill ethanol facility.

The TCE expansion and technology upgrade will be completed in May 2005 and includes installation of BPX technology (see sidebar). That will allow the facility to more efficiently process corn into new co-products and increase ethanol throughput at the facility.

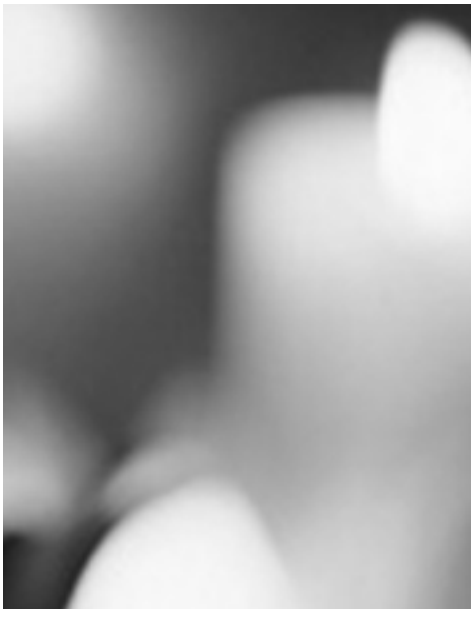
"The result will be improved corn utilization for ethanol production and higher-valued co-products," says Shunkwiler. "It will also increase our ethanol producing capacity to more than 50 million gallons per year."

Planning, design and construction of the $50 million facility–which created 40 new jobs–was facilitated by investments of $520,000 from the state’s Value-Added Agricultural Products and Processes Financial Assistance Program (VAAPFAP). The expansion is receiving a series of tax credits, abatements and refunds from Iowa’s Enterprise Zone program.

In Coon Rapids, 450 Iowa corn producers joined together to construct the $50-million TCE. With it, they’ve created a facility that is adding value to area producers’ commodities while capitalizing on the surging demand for renewable fuel. ■

Iowa Ethanol Plants

Plants	Location	Capacity	Status
1. Midwest Grain Processors	Lakota	50 Million	Production
2. Quad County Corn Processors	Galva	25 Million	Production
3. Little Sioux Corn Processors	Marcus	52 Million	Production
4. Siouxland Energy & Livestock Coop	Sioux Center	21 Million	Production
5. Tall Corn Ethanol	Coon Rapids	48 Million	Production
6. Big River Resources	West Burlington	48 Million	Production
7. Golden Grain Energy LLC	Mason City	40 Million	Production
8. Iowa Ethanol	Hanlontown	45 Million	Production
9. Otter Creek Ethanol	Ashton	45 Million	Production
10. Hawkeye Renewables LLC	Iowa Falls	45 Million	Production
11. Pine Lake Corn Processors LLC	Steamboat Rock	20 Million	Construction
12. Amaizing Energy	Denison	40 Million	Construction
13. Voyager Ethanol	Emmetsburg	50 Million	Construction
14. VeraSun	Fort Dodge	110 Million	Construction
15. Lincolnway Energy	Nevada	50 Million	Construction
16. Xethanol	Blairstown	5.5 Million	Construction
17. Central Iowa Renewable Energy	Goldfield	40 Million	Construction
18. Frontier Ethanol LLC	Gowrie	56 Million	Planning
19. Midwest Renewables	Fairbank	100 Million	Planning
20. Archer Daniels Midland (Wet Mill)	Cedar Rapids & Clinton	400 Million	Production
21. Cargill (Wet Mill)	Eddyville	35 Million	Production
22. Grain Processing Corp. (Wet Mill)	Muscatine	10 Million	Production
Total Wet and Dry Mill Capacity		**1.335 Billion Gallons of Ethanol**	



Soy Candle Capital

With more than 110 soy candle manufacturers–more than any other state–Iowa can boast of being the soy candle capital of the United States. From Arcadia to Woodbine, Iowans are producing cleaner and longer-burning candles from environmentally friendly soy wax.

It's a fact that soy candles produce less soot than candles made from paraffin wax, and they burn longer than paraffin candles.

"Soy candles have the potential to use more than 110 million bushels of soybeans, or about one-fourth of Iowa's entire soybean crop. That may mean higher prices for Iowa soybeans. Soy candles are helping Iowa's economy and attracting new industries to our state," says Neal Keppy, director on the Iowa Soybean Promotion Board and grower from Dixon, Iowa.

A complete list of Iowa soy candle manufacturers is available on the Iowa Soybean Association's Web site at www.iasoybeans.com.

New Workers Comp Rates

Competitive costs for manufacturing continue in Iowa with the latest ranking (2004) showing that Iowa has the 14th lowest costs for workers compensation among the states.

Iowa's average costs are $2.99 per $100 of manufacturing payroll. The national average is $3.87 per $100 of payroll; so Iowa costs are 23 percent below the national average.

Lower operating costs are a strength of Iowa's business climate. The state of Iowa had the 14th lowest average costs for workers comp in the previous year, 2003, and the 15th lowest costs in 2002. The data is published annually by Actuarial and Technical Solutions, Inc. of New York.

California continues to have the highest average costs for workers comp costs at $12.45 per $100 of manufacturing payroll.

Iowa workers comp costs in the latest survey are lower than Wisconsin (15th), Nebraska (19th), Kansas (20th), Illinois (21st), Minnesota (23rd), and Missouri (36th). ■

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Big River – continued from page 1

Ethanol is a reliable fuel source: a 10 percent ethanol-blended gasoline is warranted for use by all auto manufacturers and is approved for use in most small engines, including outboard motors, snowmobiles, lawn mowers, motorcycles and chain saws. "Ethanol is a proven oxygenate and proven octane enhancer that replaces lead and other non-biodegradable compounds in gasoline," says Brehm.

Big River's construction received benefits from two Iowa Department of Economic Development-administered programs. It received a $500,000 award from the Value-Added Agricultural Products & Processes Financial Assistance Program (VAAPFAP). The cooperative also received a series of tax exemptions, credits and refunds from Iowa's New Jobs and Income Program (NJIP), which is awarded to qualifying companies meeting job creation and investment criteria.

Big River Resources is a cooperative owned by more than 600 members, a vast majority of whom are area farmers who deliver corn to the plant.

Ray Defenbaugh, president of the Big River Board of Directors, says low prices for corn during the 2000 growing year sparked area producers to find a project that could add value to corn. "Big River has been a great economic engine for our area, adding upwards to 10 cents per bushel of corn, and creating high-paying jobs," he says.

Starting with Iowa's most abundant natural resource–corn–the Big River Resources ethanol plant is producing a clean-burning fuel for vehicles, adding value to a plentiful commodity, increasing operating income for its farmer-owners and stimulating the local economy. ■

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Lucy Norton
Executive Director,
Iowa Renewable
Fuels Association

guest opinion

Iowa moves into 1st place in ethanol!

This is a good time to be in the ethanol business, a fun time, because production and sales of ethanol continue to grow to record levels each year. Iowa is now the leading ethanol producing state, surpassing Illinois to move into first place. Fourteen plants are currently operating. At least nine new plants are in various stages of progress.

Iowa's ethanol industry presently has the capacity to produce 864 million gallons of ethanol annually. Four wet mills account for 445 million gallons of capacity. Ten farmer-owned or cooperative dry mills can provide 419 million gallons each year.

Seven new farmer-owned or cooperative dry mills are under construction and scheduled to begin operation during the next year, and two additional plants are planned. These nine additional plants will be capable of producing 471.5 million gallons of ethanol each year.

Iowa's total production capacity will soon reach more than 1.335 billion gallons per year – split between four wet mills and 19 dry mills.

Used in transportation fuels, ethanol in the long run will make the U.S. less dependent on oil imports. It is a high-octane, clean burning fuel produced by the fermentation of plant sugars, mostly from corn.

Growing consumer acceptance of ethanol is reflected by what's happening in the state of Iowa. A new sales record was set in November with 96.4 million gallons of ethanol blends sold, breaking July's record of 95.4 million gallons.

More than 6,000 Iowa farmers have invested in this growing industry which adds value of $2.40 per bushel of corn processed. Local economies also benefit from a $2.66 million contribution to the local tax base by the state's ethanol plants.

As the nation's largest corn producing state, Iowa's resources for renewable fuels are enormous. The 2004 corn crop is estimated at more than 2 billion bushels, the first crop of that magnitude in history and more than the annual production of Brazil and Argentina combined.

By creating 3,704 direct and indirect jobs, the ethanol industry is having a growing impact on the Iowa economy. Not only does most of the labor and corn originate from Iowa, but 44 percent of all other expenses are purchased from Iowa residents and businesses.

The plants proposed and under construction have the potential to add 1,430 more jobs, for a total of 5,187 direct and indirect jobs created by Iowa's ethanol industry.

When all of the plants now in the works are operating, ethanol production in Iowa will have a $3.9 billion impact from total sales. We live in exciting times! ■