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# New Generation Cooperatives: *Case Study*

*Golden Triangle Energy Cooperative, Inc. Ethanol  
Plant*

*by Rodney Fink*



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# **Golden Triangle Energy Cooperative, Inc. Ethanol Plant**

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## **Background/Profile of Cooperative**

### **Statewide Guidance**

The Missouri Corn Growers Association (MCGA) and the Missouri Corn Merchandising Council (MCMC) studied the potential for corn processing plants in the state and funded several economic studies in the early 1990s. Officers of the Corn Board lobbied major ethanol producers and encouraged them to build a plant in the state. Companies such as Archer Daniels Midlands (ADM) and Farmland Industries were contacted but were unresponsive to expanding construction to north Missouri. Gary Marshall, Executive Director of the MCGA, encouraged several members to take the initiative and model a cooperative after those that had succeeded in Minnesota and the Dakotas. The Golden Triangle Energy Cooperative (GTEC), developed in northwest Missouri, and the Northeast Missouri Grain Processing Cooperative is under construction in Macon, Missouri. (Ground breaking for the northeast Missouri plant was on April 17, 1999.)

### **Beneficiaries**

According to studies by Van Dyne and Associates (Van Dyne 1993; Van Dyne and Braschler 1996; Van Dyne, Braschler, and Blase 1996) the state and area where the plant was located would benefit. The economic effect of a successful plant would be felt in the community where the plants were located and would add economic advantage to the entire region. The state would benefit from the taxes being generated in the state rather than in neighboring states with similar production units. Communities visited by the researchers were enthusiastic about the possibility of new employment opportunities. The following positive benefits were cited in their studies:

- Positive balance of trade impact which would bring more income into the region because products that were previously purchased would be produced locally and exported to other regions.
- Increased value-added to the corn crop which would benefit the producers and possibly provide more revenue to the local community.
- Increased investments in plants and equipment which would stimulate the local economy by providing construction jobs initially and the chance for full-time employment after the plant is completed.
- Net increase in jobs and income in each community and in the state would result during construction and continue after the plant begins operation. Secondary employment is also possible as associated industries develop as a result of plant byproducts becoming available at a competitive price.

- Increased local and state revenues collected from corn processing plant operations would stimulate local and state tax revenues and provide funds for improvements to the community and to the region.
- Likely increase in associated businesses resulting from the ethanol plant as the increased numbers of jobs would require additional goods and services because of the expanded workforce.
- Environmental benefits to the state from the use of ethanol-blended transportation fuels in automobiles and other engines.

### **Positive Benefits from Ethanol Plants**

Most states with corn processing plants have reported positive benefits from their operation. In addition, many states offer financial incentives for corn processing plants; the benefits of these incentives must be quantified so that the net value to the state can be identified and assessed. In Missouri, the state incentives include an annual \$.20 per gallon production incentive (for up to 12.5 million gallons and \$.05 thereafter) for the first five years of plant operation. Plant ownership also affects the increased revenues that accrue to local and state governments. In Minnesota, most corn processing plants are owned as New Generation Cooperatives (NGCs). In this ownership structure, assumed net earnings are distributed to member-owners, and local, state, and federal income taxes are paid by member-owners. When the plant operates as a corporation, income taxes are paid by the corporation, and dividends are distributed to shareholders who pay personal income tax on dividend earnings, creating double taxation. GTEC is an NGC, and income taxes are assumed to be paid by the member-owners with no corporate taxes collected.

### **Plant Location**

A study by Van Dyne (1993) in the early 1990s found considerable enthusiasm for locating an ethanol plant in communities of northwest Missouri. The state of Missouri designated St. Joseph a depressed economic region, and local leaders supported an ethanol plant for the region. Members of the St. Joseph Area Chamber of Commerce promoted the program and assisted in raising venture capital. The original intent was to construct the facility in St. Joseph but difficulties in finding a site necessitated moving the facility to another town. One factor which necessitated the move was a requirement that a USDA loan guarantee is available only to towns with populations of less than 50,000. Craig, Missouri (population 347), surfaced as a good site since it had the physical characteristics needed for an ethanol plant—namely, (1) has an adequate water supply, (2) possesses a natural gas line, (3) is close to an interstate highway, and (4) has a major railroad line (the Burlington Northern passes through).

Approximately 40 acres are needed for the construction site, and adequate land was available near Craig. The site selected contains 91 acres and is located along a Burlington Northern Santa Fe (BNSF) railway line and less than one-half mile from the intersection of Interstate 29 and U.S. Highway 59. The site can be served by two electric utility companies, and a gas pipeline is located under the site. GTEC plans to tie into the city of Craig for water and

sewer utilities. The site provides easy access for grain trucks moving through the area and is large enough to house associated industries that wish to locate nearby.

### **Design, Construction, and Leadership**

Several ethanol plant designers (including Broin Enterprises, Inc., of Sioux Falls, South Dakota, and Delta T) and the likely contractor, Feagan, Inc., have met with the GTEC board during the planning process. Feagan Inc., and Broin Enterprises, Inc. expressed interest in investing in the cooperative that would require the creation of a Limited Liability Company (LLC).<sup>1</sup> This would require joint governance by the GTEC and the LLC. Feagan, Inc. has built plants in Minnesota and in the Dakotas and is an experienced builder of ethanol plants. The Board of Directors consists of 13 members who have been active throughout the process, providing input, decisions, direction, and financing.<sup>2</sup> All GTEC board members have made a major investment of time and money to help get the project underway.

### **Key Players**

Many key players exist in the project. The board president and the board members have all been supportive, persevering, and diligent in the years since the project was initiated.<sup>3</sup> Early support and encouragement came from the MCGA and MCMC. They funded feasibility and benefit studies, and the executive director of MCGA encouraged several individuals (now GTEC board members) to move ahead with the project. Support from a retired official of Farmland Industries and a local radio station director (who additionally serves as the Chamber of Commerce farm committee chairman) also helped drive the project.<sup>4</sup>

The first venture capital committed to the project was \$40,000 from the Kansas City/St. Joseph, Missouri, Diocese Catholic Charities organization. The director of Catholic Charities said the organization wanted to support economic development in rural areas and liked the idea of adding value to local products and creating jobs for local people.<sup>5</sup> The MCMC (with check-off funds) matched the \$40,000 commitment of Catholic Charities and additional organizations added venture capital for a total of \$180,000. The venture capital raised from these sources was held in a Community Development Corporation named “AGRIVEST,” which was created to hold funds until needed for the organization.

The corporation plans to continue after GTEC begins operation and assist the formation of additional economic development ventures for the region. The board consists of officers (president, vice-president, and treasurer) from Catholic Charities and current members of the GTEC board. The cooperation of these people enabled the project to begin by providing the risk capital that encouraged others to join as well. When the construction phase begins (when the investments, contracts, and loan are signed), all venture capital investors will be paid the initial investment plus a matching amount (thus Catholic Charities will receive \$80,000). The payback can be retained by the contributing organizations, although the hope is that the funds will remain intact and be available for future economic ventures to support the region (share ownership in GTEC is also a possibility). Board members, who also made a considerable investment of time

and fundraising (in addition to their shares in the venture), will receive a payback when the final loan fund is placed in operation.

The combination of organizations and individuals is a good model for economic development. Catholic Charities wanted to help the economy by creating jobs; the chamber of commerce also wanted to help the local economy; and the farmers involved wanted to add value to their grain. The MCMC provided funding for the initial studies that generated interest by farmers, and it also matched the funding by Catholic Charities. The reinvestment of funds to these organizations by GTEC will provide further impetus to future economic development endeavors. The actions of these groups can provide a good model for other communities in promoting economic development. Likewise, continued cooperation of these organizations can generate additional business opportunities for the St. Joseph area.

### **Start-Up Funding**

Catholic Charities is credited with providing the initial funding that enabled the project to start. After providing much assistance during the Missouri River flood of 1993, the Kansas City/St. Joseph Diocese of the Catholic Church wanted to support economic development that would benefit rural areas, especially the creation of jobs. Representatives of Catholic Charities met with St. Joseph Area Chamber of Commerce officials and asked what projects might be available that could use assistance in the form of “seed money.” Among projects considered was GTEC. Catholic Charities initially intended to provide the funding as a grant, but the acceptance was made with the understanding that they would be repaid or would become shareholders. The initial commitment of Catholic Charities is credited with providing the momentum to start the cooperative. When groundbreaking took place, the St. Joseph/Kansas City Diocese leaders were key participants.

### **Regional Support**

The St. Joseph Area Chamber of Commerce provided early assistance to the project with in kind support such as accounting, office help, and general project assistance.<sup>4</sup> The chamber president was supportive as was the Farm Committee Chairman, with one member, a Farm Director of KFEQ (now Farm Director of WHO in Des Moines, Iowa), being a key player and promoter. According to the Farm Committee Chairman, the St. Joseph Chamber served as the office and clearinghouse for the project as it developed. The Agribusiness Committee of the Chamber existed before the Chamber of Commerce was established; however, it had been somewhat inactive in recent years. The chamber president, a chamber employee, the Farm Committee Chairman, and an interested and committed board nucleus supported and promoted the creation of an ethanol plant.<sup>7</sup> The chamber not only provided an office and served as a coordinating body for GTEC, it also lobbied the state legislature for incentives for ethanol production. [When Catholic Charities contacted the chamber in search of a job creation project, GTEC was suggested to them as a possibility. Catholic Charities liked the idea of adding value to local products and especially liked the job creation potential of an ethanol plant.] Malcom McCance, an employee of the St. Joseph Chamber and GTEC board member (currently employed by GTEC as working manager), conducted much of the initial coordination for GTEC

and assisted its Board in facilitating the project.<sup>8</sup> According to Wergen, the ingredients that made this project successful include the following:

- The presence of a good idea (ethanol plant)
- The presence of a good group of people to promote, invest in, and raise funds for the project (GTEC Board)
- Support of a local group that could coordinate and help in the initial stages (the Farm Committee of the St. Joseph Chamber of Commerce)
- The presence of groups willing to invest in the project (Catholic Charities and others)

## **Proposed Plant**

### **Dry Milling Process**

The proposed plant will utilize a dry milling process (in contrast to a wet milling process) that will produce ethanol and high protein dried distillers grains and solubles (DDGS). Carbon dioxide is also produced in the processing; some plants recover it for sale while others do not. In the wet milling process, which is usually found in larger plants, a variety of products, in addition to ethanol, such as starch, corn syrup, corn gluten feed, corn oil, and carbon dioxide, can be produced.

### **Plant Input and Output**

Corn prices fluctuate widely, depending on weather and international demand; analyses predicting long-term benefits use long-term averages in the vicinity of \$2.30 per bushel. The output from a bushel of corn is about 2.7 gallons of ethanol and 16 pounds of DDGS. Assuming a sales price of \$1.20 per gallon of ethanol and \$120 per ton of DDGS (currently less but \$120 is considered a long-term average), the value for ethanol is \$3.24 and for DDGS \$0.96 or a total value of \$4.20 per bushel of corn. Thus, the value-added is \$1.90 per bushel of corn. At full operation, the plant is expected to process approximately 5.6 million bushels of corn annually for a total increase of about \$10.65 million. This added value benefits the community and the state; however, the value added must also cover the processing costs for the plant (Van Dyne, Braschler, and Blase 1996).<sup>9</sup>

## **Ownership and Management**

The sale of shares in GTEC has been an active project of board members, assisted by the St. Joseph Chamber of Commerce. Initial offerings were \$12,500 per share. For each share purchased, the shareholder had the right to deliver 5,000 bushels of corn for processing. After the initial round of investing, the cost per share was increased to \$13,000 per share. Subsequently, shareholders were allowed to add to their investment in increments of \$1,000 which increased their delivery rights by 385 bushels.

Additional investments can still be made as GTEC strives to increase the amount of money available for leveraging with the lending company (Stearns Bank of St. Cloud, Minnesota). Since the Craig, Missouri site has been selected, shareholders will have a chance to cancel their

obligations or add more shares as they desire. As of October 1, 1999, over \$6 million of investment has been received from 275 investors. Financing guarantees are anticipated from the USDA loan guarantee program available to operations built in communities with population less than 50,000. When the loan agreement is signed, Stearns Bank will submit a request to USDA for a loan guarantee. The USDA then conducts an environmental review and public comment period before giving such a guarantee. After opening its office GTEC employed a full-time managing director. As an NGC, farmers who invest in the plant will have the right to supply corn to the plant and receive an end-of-year value-added payment, similar to a stock dividend. Return to investment is expected to be between 25 and 30 percent per year which is in line with the return paid by similar cooperatives in Minnesota and the Dakotas.

The plant will operate year-round and will buy corn throughout the year. On-site storage will accommodate about 20 to 25 days of operation, so grain must be continuously purchased. The board and managing director are investigating additional operations, such as a poultry production feed mill, feeding operations, and other related operations, that could locate near the plant and take advantage of the DDGS.

### **Assumed Economic Benefits of an Ethanol Plant in North Missouri**

The economic assessments in northwest Missouri reported positive benefits from construction of an ethanol plant. Initially, the corn industry requested production incentives for an ethanol plant in the amount of \$.20 per gallon of ethanol produced for the first five years. Corn producers in Missouri need state incentives similar to other states; otherwise, Missouri producers would be at a disadvantage in selling ethanol, either in or out of state. Other incentives continue to be considered by the Missouri legislature.

### **Balance of Trade**

Since virtually all of the liquid motor fuels used in Missouri are currently imported (including ethanol used in gasoline blends and E-85 vehicles), the added value to motor fuels accrues to other states and to other nations. According to Van Dyne (1993) and the 1994 Missouri Department of Revenue statistics, about 3.7 billion gallons of gasoline, diesel fuel, and gasohol were used in the state in 1994, an increase from 3.1 billion gallons in 1986. Of this amount, other sources indicate that at least 2 billion gallons are gasoline, with gasohol having an estimated 10.46 percent market share of all gasoline sold in the state. Using an average wholesale price of \$0.58 (without state and federal excise taxes), the deficit balance of trade for gasoline in 1994 was \$1.2 billion. The 15 million gallons of ethanol produced from an ethanol plant could enhance Missouri's balance of payments by \$8.7 million annually (by reducing the volume of gasoline imported into the state). Two plants could reduce imports into Missouri by \$17.4 million. In-state production reduces the outflow of money to other states and generates tax revenues for the state. Likewise, jobs created also impact the local and state economy.

### **Plant Investment**

The industry average for constructing an ethanol plant is less than \$2.00 per gallon of annual production (Van Dyne, Braschler, and Blase 1996), although GTEC anticipates a lower

construction cost. Construction of the GTEC (including start-up costs) will be about \$21.5 million, which will be spent during the construction stage (late 1999 and early 2000). The plant is to be put into full-scale operation in the year 2000. The estimated jobs and economic impacts of constructing and operating a 15 million gallon dry milling ethanol plant can be seen in **Table 1**.

**Table 1. Job Creation Impact from Ethanol Plant**

<i>Description</i>	<i>During Construction</i>	<i>Plant Operation</i>
Increase in jobs	388	206
Increase in personal income (million \$)	\$34.3	\$27.9
Increase in total economic activity (million \$)	\$36.6	\$30.9

*Source:* Based on inputs of Van Dyne and Braschler 1996; Van Dyne, Braschler, and Blase 1996.

The construction jobs and impacts will exist only during the plant construction phase; whereas, the impacts for plant operation will be in place annually as long as the plant is in operation.

### **Potential Associated Industries**

Livestock and/or poultry feeding operations are likely to locate near a corn processing plant. North Missouri has a large number of cow-calf operations, and many yearlings are shipped to feedlots in Kansas, Nebraska, and Colorado. A corn processing plant could result in increased beef feeding in northern Missouri. If a significant amount of the DDGS from a plant were fed to livestock, a major benefit to the region could occur. An analysis by Van Dyne revealed the following:

- A 15 million-gallon ethanol production plant would produce about 48,800 tons of DDGS per year (6.1 million bushels of corn @ 16 pounds of DDGS/bu).
- Beef cattle would be put on feed at 700 pounds and sold at 1,100 pounds.
- A 700 pound steer would consume about 18 pounds of feed/day of which up to 40 percent could be DDGS; while a 1,100 pound steer would consume about 25 pounds of feed daily.
- Steers would gain about 3 pounds/day, thus requiring about 133 days in the feedlot.
- At about 8 pounds of DDGS/day for the 133-day period, each steer would consume slightly over one-half ton of DDGS.

If the DDGS from a single 15 million-gallon ethanol plant were fed to feedlot animals at a maximum rate of one-half ton per animal, approximately 100,000 steers could be fed. Such a plant could foster a significant increase in the cattle feeding in the region.

Van Dyne estimated the following jobs, investment, increased income, and tax collections resulting from a feedlot that finished 50,000 animals annually (See **Table 2**).

**Table 2. Estimated Values of a Livestock Operation**

<i>Item</i>	<i>Values</i>
Increased jobs	365
Increase in personal income (million \$)	\$46.1
Increase in total economic activity (million \$)	\$64.9
Income tax (thousand \$)	\$1,844
State and local sales tax (thousand \$)	\$1,982
Excise taxes on motor fuel (thousand \$)	\$43
Total annual tax collections (thousand \$)	\$3,869

*Source:* Van Dyne and Braschler 1996; Van Dyne, Braschler, and Blase 1996.

Significant benefits would result to the local and to the state community if a cattle feeding operation located near the ethanol plant. Of the 365 new jobs, 50 were with the feedlot, which requires relatively few jobs because of the highly automated system. Local and state estimated annual tax revenues include income, sales, and excise tax revenues. They exclude sales taxes from inputs necessary in operating the feedlot. Real and personal property taxes were not included in the scope of the report (Van Dyne 1993; Van Dyne and Braschler 1996; Van Dyne, Braschler, and Blase 1996); however, they would have an impact on the community, especially school funding.

The impact that could result from an integrated feedlot complex, which would be built around the nucleus of a corn processing plant, could be quite important for local economies as well as for the state as a whole. If the complex were expanded to include a cattle processing plant, the economic activity would increase even more. A large poultry production facility is close to Craig, Missouri and has shown interest in using DDGS in its feed rations. In addition, a pet food manufacturer has indicated some interest.<sup>2</sup>

### **Estimated Revenues to State and Local Governments**

**Table 3** shows the estimated annual tax revenues collected by local and state governments as a result of the construction of a 15 million gallon ethanol plant.

**Table 3. Estimated Tax Revenues as a Result of an Ethanol Plant**

<i>Type of Tax</i>	<i>Construction Phase</i>	<i>Operation Phase</i>
State income tax	\$1,372,000	\$1,117,000
State and local sales tax	\$1,475,000	\$1,390,000
Excise tax	\$ 64,000	\$179,000
Real and personal property tax		\$332,000
Total estimated tax revenues	\$2,911,000	\$3,018,000

*Source:* Van Dyne and Braschler 1996; Van Dyne, Braschler, and Blase 1996.

The state treasury is expected to spend \$3 million annually to fund the producer incentive (\$.20 per gallon x 15 million gallon = \$3 million). Based on estimates in the feasibility study, tax revenues to fund the producer incentives will be offset by income to the state treasury during the first and subsequent years of operation. The producer incentive will expire in 2007 and, unless extended, the state will then gain another \$3 million annually.

### **State Incentives**

The State of Missouri has allocated a credit for the two ethanol plants being built in northern Missouri. This incentive consists of \$.20 per gallon for up to 12.5 million gallons per year and a rate of \$.05 for the next 2.5 million gallons produced for a period of five years. The incentive applies to only the two small plants currently underway in northern Missouri and will subsidize the plant for a total of \$13.15 million during the five-year period (\$.20 per year x 12.5 million gallons x five years + \$.05 x 2.5 million gallons per year for five years). The legislation authorizing the ethanol subsidy was recently submitted through the year 2007. After five years of operation, the current subsidy will terminate.

In addition to the \$.20 per gallon incentive, the legislature recently passed a tax credit (HB 888) of up to \$15,000 for investors in an NGC. In this legislation, one-half of up to \$30,000 is eligible for tax credit with a cap of \$1.5 million per entity. Thus, the GTEC plant will be eligible for up to \$1.5 million in tax credit to investors (prorated among investors). Tax credits may be carried back three years, carried forward five years, and are saleable if farmers cannot use the credits themselves. The legislation, passed by both the House and the Senate and signed by the Governor, provides tax credits which may be utilized or sold. In addition to the tax credit,<sup>11</sup> the bill provides for (1) value-added grants for items such as start-up costs and feasibility studies; and (2) a loan guaranty program for NGCs.<sup>3, 6, 8</sup>

### **Value Added Projections of the GTEC Ethanol Plant**

The estimated value-added per bushel of corn was prepared using assumptions given by members of the GTEC board and from information provided by a design engineer.<sup>2, 9</sup> They are accepted as accurate, although, as inputs vary in price, major deviations can occur. The federal exemption for gasoline tax is now in place through the year 2007, and an amortization period of seven years was used to place payout within this period (See **Tables 4 and 5**).

**Table 4. Specifications and Assumptions**

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Ethanol production, gallons per year	15,000,000
Corn processed, bushels per year	5,357,142
Ethanol price per gallon	\$1.10
State Incentive per gallon	\$0.194
DDGS price per ton	\$85.00
Corn price per bushel	\$2.25
DDGS pounds per bushel	16 pounds
Total investment	\$21,500,000
Debt service amount	\$15,500,000
Shareholders equity	\$6,000,000
Interest rate on debt/amortization period	8% / 7 years
Debt Service cost per year	\$2,899,036

**Table 5. Operations Data**

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Revenue from sales	
Sale of ethanol (15 million gallons X \$1.10 per gallon)	\$16,500,000
DDGS sales	\$3,642,856
State incentive	\$2,910,000
Total revenue	\$23,052,856
Projected expenses	
Denaturant	\$445,000
Corn for processing	\$12,053,569
Utilities (gas, electricity, water, sewer, etc.)	\$2,394,371
Enzymes	\$929,500
Yeast	\$220,000
Miscellaneous supplies and repairs	\$570,000
Payroll	\$900,000
Associated payroll expenses	\$200,000
Insurance/bonding	\$450,000
Debt service (principal and interest for 7 years @ 8 percent)	\$2,899,036
Total projected expenses	\$21,061,476

**Table 6. Summary Statistics**

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Total projected income	\$23,052,856
Total projected expenses	\$21,061,476
Total income	\$1,991,380

Value added per bushel = Total income divided by bushels processed  
 $\$1,991,380/5,357,142 = \$0.37$  added per bushel processed

Value of a bushel of grain:	
Purchase price (paid to farmer)	\$2.25
Plus value-added portion	\$0.37
Value of a bushel of corn	\$2.62

Return from plant:  $5,357,142$  bushels processed  $\times$   $\$0.37 = \$1,982,143$   
Return on shareholder investment ( $\$6,000,000$ ):  $\$1,982,143/\$6,000,000 = 33$  percent  
Return per share ( $\$13,000$  investment =  $\$4,290$  per share [A portion of this may be retained by the cooperative for additional investment.]). This would be the portion available for distribution to each shareholder.

The values listed in **Table 6** show the potential for adding value to corn. Approximately one-half of the corn processed will be delivered by shareholders. The remainder will be purchased locally. Profits will be paid to shareholders at the end of the year, based on the total profits generated by the plant. The projections are based on an equity position of \$6 million by shareholders, and the return to shareholders is taken after all expenses are paid (including principal and interest on the remaining leveraged amount of \$15.5 million). An anticipated 10 percent or greater profit is likely to be withheld for capital and other investments needed for plant operation. The projections look very promising but will fluctuate depending on the price of corn, the price of ethanol, and the price of inputs utilized. The cash price of corn and the sales price of ethanol vary considerably and have a major impact on profitability.

### Conclusions

Land acquisition, financing, engineering, and construction for the plant are in the final stages. Groundbreaking ceremonies, attended by over 400 persons, were held on September 13, 1999. The processing of corn will commence about one year after construction begins. To date a good plan has been developed that indicates success for the shareholders, and Craig, Missouri, has the necessary attributes (land, labor, natural gas, water, interstate highway, and major railroad) to support the plant.

Although profit projections appear good, this is a high-risk undertaking and should be viewed as such. The chances of loss to an individual investor, however, are limited to the amount of money invested. The return to investors is guaranteed, as a minimum, to be 65 percent of profits and should be higher to enable taxes to be paid by shareholders instead of by the co-op. Tax credits available from the State of Missouri help reduce the risk to potential investors. Changes in the price scenarios have a major effect on profit—for example, a \$.20 increase in

ethanol price or a \$40 per ton increase in price of DDGS has a dramatic effect on the profit projections.

Investors should consider the investment in an ethanol plant as a hedging tool. In years of low corn prices, the returns from ethanol will be greater because of the lower cost of inputs to the plant. In years of higher corn prices, the return from ethanol could be less (depending on price of ethanol). The price of ethanol has varied widely in recent years and was as high as \$1.70 per gallon recently. World and economic factors have a major effect on the prices received for commodities, and ethanol and DDGS are no exceptions. The value of ethanol will be assisted until 2007 by the federal exemption of taxes for ethanol added to gasoline at a rate of 10 percent ethanol per gallon. Some plants make additional profit from processing carbon dioxide as a byproduct. The GTEC plans to market carbon dioxide, as a potential market for it exists in northwest Missouri. The availability of state incentives contributes to the potential success of this venture. Without such incentives, finding investors would be more difficult. Projections show that once operation commences, shareholders will collect a dividend each year (up to 30 percent of investment) and the plant debt will be repaid in seven years.

Assuming the success of this venture, key ingredients include a thorough feasibility study which outlines benefits, potential profitability, and regional support. This was combined with strong board leadership and the support of other agencies interested in the development of the rural economies of the state. Catholic Charities came forward with the initial venture capital that added enthusiasm to the potential success of the project. According to the board president, “another big plus for the Craig, Missouri site has been overwhelming support received from officials of Holt County and the city of Craig. Elected officials and citizens alike have been there for GTEC every step of the way. We’re happy to be locating in the area.” Such support is necessary if NGCs are to succeed in rural communities.

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### **Endnotes**

<sup>1</sup>Personal conversation with Rob Broin (ethanol plant designer) of Broin Enterprises, Inc., on May 12, 1999.

<sup>2</sup>GTEC Board of Directors:

Richard Garst	Rt. 4, Box 68W, Watson, Missouri
Charlie Hurst	Rt. 2, Tarkio, Missouri
Ryland Utlaut	Box 112, Grand Pass, Missouri
Ed Hesse	19515 S. Parris Rd., Pleasant Hill, Missouri
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Byron Fink	Rt. 1, Oregon, Missouri
Larry Davies	Rt. 1, Box 99, Ludlow, Missouri
Malcom McCance	P.O. Box 32, Camden Point, Missouri

<sup>3</sup>Byron Fink, GTEC Board President. Numerous phone conversations.

<sup>4</sup>Gary Wergen, Farm Director of WHO (formerly KFEQ Farm Director) in Des Moines, Iowa, by phone conversation on May 4, 1999.

<sup>5</sup>Dr. Karen Hauser, St. Joseph, Missouri Area Director of Catholic Charities, by phone conversation on May 3, 1999.

<sup>6</sup>Fred Stemme, Missouri Corn Growers Association, by phone conversation on May 7, 1999.

<sup>7</sup>Plant site visit and meeting with Managing Director Malcom McCance and Board President Byron Fink on May 12, 1999 (in Craig, Missouri).

<sup>8</sup>Malcom McCance of the GTEC (formerly of St. Joseph Chamber of Commerce) by phone conversation on May 7, 1999.

<sup>9</sup>Personal conversation with Donald L. Van Dyne on April 30, 1999.

<sup>10</sup>Meeting with members of site committee of Board of Directors and President of the Board, May 12 and 13, 1999.

<sup>11</sup>*Missouri Value-Added Grant and Loan Guarantee Programs*. Brochure describing the program administered by the Missouri Agricultural and Small Business Development Authority.