



# CONTEXT

## Thinking in Context. . .

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### Dear Friends and Colleagues,

"In a perfect world..." We've all heard or used this phrase – usually in retrospect. This issue of *Thinking in Context*, I

propose we consider ethanol production, both now and what might be in a perfect world.

Through our interaction with clients and development of our comprehensive study, "*The Future of the North American Biofuels Industry*", Context has been extensively involved in this developing industry. For the first time in history, US ethanol production has begun in earnest, with an anticipated average peak production between 7-12 billion gallons. Ethanol already is impacting producers and communities.

However, consider for a moment what that scenario would be "in a perfect world." Ideally, as an ethanol plant is built, the entire infrastructure around it would also be fashioned simultaneously, creating a sustainable economy. Rather than building a single plant, in a perfect world, we would build a sustainable economic community.

From scratch, we might begin with 40,000 acres of sugar beets or corn, an ethanol plant, an electrical generation system, a feed processing mill, a cattle feed yard and slaughter house. These would be developed around feasible distribution systems and within close proximity to eliminate shipping anything but high value end product.

Such a system would allow for collaborators to effectively participate by forming vertically integrated alliances. It might involve agri input suppliers from machinery and equipment, to seed and crop protection. Cattle feeders, their investors and processors could steadily use by-products and benefit from participation as a whole. Energy would be readily distributed to consumers. The system allows for multiple firms, each with expertise in their own areas to contribute and support the system.

Reality is that we don't live in a perfect world. However, *Thinking in Context*, we need to carefully consider how we get closer to the ideal. This 'what if we started from scratch' thinking may help us develop less disruptive systems for ethanol plants or any other venture.

Strategic decision making may utilize many assumption-based thought patterns, but one that cannot be overlooked is consideration of that perfect world. Context's experienced executives deliver strategic decision-making support to clients in agriculture, energy and food industries. With that broad understanding and specific attention to your challenges, we look forward to helping you use your firm's strengths to increase profitability, gain competitive advantage and achieve sustainable success.

Sincerely,

Tray Thomas  
Founding Partner  
The Context Network

### Context Welcomes Three New Consultants

"Critical developments in agriculture, fuels, and food industries require expertise at the highest levels to achieve success," said Steve M. Hawkins, Context Network partner and managing director. "We're pleased to announce the addition of three new consultants of significant substance and experience to answer those needs."

Pharmaceutical and agricultural life science business leader, **Dr. Thomas Klevorn**, joins Context with twenty years of business and R&D experience at Syngenta, Pharmacia and Monsanto. At Syngenta, Dr. Klevorn served as head of the NK brand. While at Pharmacia and Monsanto, his roles included commercial and business

development assignments in Brazil and Europe.

Development and implementation of business and marketing strategies and management of teams is the expertise of consultant **Scott Johnson**, learned over a 30-year career. He most recently served as director and business unit manager for Bayer CropScience. In addition, Johnson served as general manager of bioscience (corn, soybeans) and head of North American biotech traits for Aventis CropScience.

**Paul Corzine** brings 30 years of experience in agricultural business, marketing and production organizations to the team. Corzine had previously served as director of the compliance department and stewardship education coordinator for STEP, Inc., an independent service provider to biotechnology and seed companies. There, he supervised onsite compliance audits performed on licensed dealers and growers and assisted in dealer network education efforts. He will lead Context's new regulatory and biotechnology services.

Hawkins added, "Each of these individuals brings a wealth of senior level management expertise to our team. Their knowledge and background in biotechnology, seed and agricultural life science business will provide our clients with critical insights in responding to the many rapid developments occurring in these industries."

### Context Multi-Client Reports Available

- ✓ Future of the North American Biofuels Industry
- ✓ Benchmark Study for Crop Protection Manufacturers
- ✓ Biotech Traits Commercialized

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Context  
Consultant,  
Thomas Klevorn,  
Ph.D.

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### A Comeback for “Backyard” Ethanol?

The potential of ethanol as a fuel source, particularly cellulosic ethanol, is impressive and continues to produce a great deal of scientific and business interest and attention. A strong desire for energy independence and reduced energy costs at all levels, from the national to the individual, are driving interest in ethanol as a fuel as well. Context Network Consultant, Dr. Thomas Klevorn noted, “Aggressive and well-funded investments by the private and public sectors, in addition to generating new ideas and information, are accelerating commercial introduction timelines for products derived from cellulosic ethanol technology.”

Klevorn stated that much of the current effort involving cellulosic ethanol is focused on improving and developing a relatively few sources of cellulose (corn, switchgrass, trees, etc.). “While these cellulose sources are renewable and likely to be available in large quantities, the availability of other cellulose sources and their potential impact on the commercialization of all forms of ethanol should be considered.”

But, he says, there are several assumptions to be made. “Assuming cellulose to ethanol conversion technology is available, widespread and common use of cellulose-based products used for packaging, building materials and paper of all types could provide a very large and readily available supply of cellulose. Likewise, lawn, yard and municipal wastes of various types may reliably serve as feedstock for ethanol production.”

### Considering Alternative Cellulose Resources

According to Dr. Klevorn, alternative sources of cellulose, sometimes referred to as urban or waste cellulose in the ethanol business of the future, merit careful consideration. “Of course, the complexity and flexibility of cellulose to ethanol technology is a key consideration. However, if the past is any indication of the future, a possible outcome might be production of ethanol for fuel on a very local level. Rather than contributing cellulose to a recycling stream for little to no profit, as is commonly done at present, individuals and/or communities could use

this “waste stream” to produce valuable ethanol products.”

### A “Backyard” Ethanol Scenario

In this scenario, what has historically been considered undesirable waste by homeowners and municipalities would now be valued for its energy producing potential. Dr. Klevorn stated, “Current participants in the waste recycling industry might lose a significant source of revenue. Likewise, producers of cellulose-based materials currently used for packaging, paper products, etc. might begin to reconsider the value and allocation of their products in light of the potential of their use as feedstock in producing ethanol for fuel. Product transportation and distribution issues could change significantly as could product quality, certification and liability processes and requirements.”

Dr. Klevorn stated that such a scenario would have specific implications and ramifications to ethanol production industry players throughout the channel. “Businesses providing relatively small-scale cellulose-to-ethanol equipment might develop and prosper. Emergence of relatively small-scale ethanol producers might place considerable pressure on the ability of large-scale ethanol plants to achieve profitable volume and production targets.” He concluded, “Clearly, the implications of this type of development, the development of a more localized cellulose-to-ethanol business environment, could be quite dramatic and might influence many aspects of the ethanol business, including type and timing of capital investments, possible value shifts and potential new sources of value for new ‘owners’ of waste cellulose.”

*The Context Network* provides business management and strategy consulting services to the world’s leading agriculture, biotechnology and food companies and government agencies and institutions. Major areas of expertise include strategy, merger and acquisition support, valuation of new technologies, formation of alliances, and market research. The Des Moines-based firm is composed of a core of professional consultants that is complemented by a network of more than 100 industry and subject-area experts.

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(Photo pg. 1 courtesy University of Michigan)