

Feasibility Analysis • Site Selection • Business Plan Preparation • Preliminary Engineering Support • Tech



Technology Analysis • Project Development • Feedstock Sourcing • Technology Support Service



About FBA Consulting

Frazier, Barnes & Associates, LLC (FBA) is a Technical and Marketing Consulting services firm formed in 1996 to provide a broad range of services to the renewable fuels industry. The firm's project expertise ranges from feasibility analysis and business plans to project development and construction oversight.

The biofuels industry has experienced rapid growth for the past several years, bringing opportunities and challenges to project developers and investors. FBA is uniquely positioned to bring insight and sustainable solutions through a wide offering of value-added services.

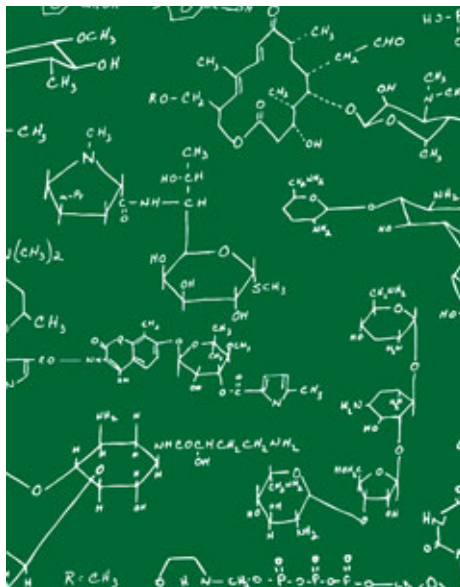
As an industry innovator in biofuel project development, FBA offers four broad categories of services:

- Technical and Operations Support
- Project Development and Commercialization
- Management and Marketing Support
- Research and Development

FBA's commitment to its clients is demonstrated by the loyalty and expansion of its client base. Quality, accuracy and timeliness are hallmarks of FBA's client services. FBA's growing client family includes independent developers, large corporations, lending institutions, commodity and trade associations, research institutions and state governmental groups, among others. Its close partner relationship with a vast array of clients gives FBA an expanding perspective on the growing needs of the agricultural industry as it shifts to an energy-driven market.

Located at the Agri-Center International in Memphis, Tennessee, FBA is uniquely positioned to assist its clients in the development of new and improvement of existing processing facilities.

In addition to market and technical resources for first and second generation projects, FBA can assist in funding procurement for high quality projects, feedstock procurement and off-take agreements. FBA is committed to being a reliable resource for the rapidly evolving renewable fuel industry.



PROJECT DEVELOPMENT AND COMMERCIALIZATION

- Assessment of Processing Options
- Feasibility Studies
- Business Plans
- Economic Analysis
- Project Development Services
- Financial Closure
- Site Selection Analysis
- Project Engineering Services
- Construction Management / Owner's Rep Services
- Start-Up Planning and Implementation

TECHNICAL AND OPERATIONS SUPPORT

- Capital Project Audits and Evaluations for Biofuel Projects
- Oilseed Processing Solutions
- Operations Benchmarking Audits
- Operations Evaluations & Troubleshooting
- Operator Training Programs
- Third-Party Engineering Reviews
- Technology Upgrades and Expansions

MANAGEMENT AND MARKETING SUPPORT

- Product and Co-Product Marketing Support
- Marketing Plan Development
- Plant Management Services
- Product Off-take Agreements
- Quality Assurance, ISO 9000 and BQ 9000 Development
- Strategic Planning

RESEARCH AND DEVELOPMENT

- Processing Plant Product Quality Research Studies
- Leading Edge Processing Technology Research and Development
- Pilot Plant Technology
- Alternative Feedstock and By-product Research

Relevant Project Experience

FBA has conducted numerous feasibility studies, business plans, technical reviews and audits for the biofuels & agricultural processing industries. In addition, FBA provides project development services for a broad customer base. FBA has been involved in the development of 287.5 million gallons of biodiesel capacity.

FBA has also assisted in the development and commercialization of new agricultural-based processes & technologies:

AGRICULTURAL PROCESSING & ENGINEERING

Corn Fractionation Study for the World's Leading Chemical Company

FBA evaluated the feasibility of fractionating high-starch corn and deoiling the germ component for edible oil or biodiesel use.

Employee and Management Training Program for a New Soybean Processing Facility in Fairmont, Minnesota

Operations and safety training before and after startup of a large crushing facility for Cenex Harvest State's processing plant in Fairmont, Minnesota.

International Soybean Processing Technical Reviews

Conducted technical review of a soybean processing plant in Estonia. Conducted oilseed processing and edible oil refinery operational audit for plant in Australia.

Soybean Processing Internal Audits

Conducted multiple operational audits for numerous soybean processors. Developed a database to benchmark processing plant costs and efficiencies for internal use.

Oilseed Processing Feasibility Studies & Business Plans

Conducted multiple feasibility studies and business plans for agricultural co-ops and soybean councils in the U.S. and Canada.

University of Illinois Soybean Processing and Meal Quality Study

FBA conducted a soybean processing Pilot Plant test for soybean meal and coordinated extensive soybean meal feeding trial tests utilizing soybean meal samples from multiple U.S. processing plants.

Landfill Gas Utilization Project for an Existing Soybean Processing Facility in the Upper Midwest

Identified requirements for converting from natural gas to methane gas. Negotiated with the landfill owner and pipeline operator. Project resulted in significant energy savings for the processing plant.

Agricultural By-Products Cogeneration Study

Conducted an evaluation determining the process and economics for converting soybean hulls and corn germ into thermal energy for an Iowa soybean processing plant.

Anaerobic Digestion of Swine Waste

Feasibility of locating an anaerobic digestion facility in north-central Iowa to process swine waste from the estimated 80,000 feeder pigs in the region.

Cottonseed Oil Mill Biomass to Energy Project

FBA evaluated the feasibility of utilizing alternative energy sources for process steam generation at a cottonseed processing plant utilizing state-of-the-art boiler technology.

Biomass Education Project

Worked in conjunction with AgroTech Communications to develop a biomass education program that identified potential biomass feedstocks to be utilized in Tennessee. Made presentations across the state to potential biomass project developers.

Market and Financial Review for Montana Biofuel and Bio-lubricant Project

Worked with producer group, university and private corporation to review their feasibility study and marketing plan. Developed a model for conversion of wheat acres into canola/mustard seed acres.

BIODIESEL

Project Development for 50 Million Gallon Biodiesel Plant

Provided direct support from inception to operation for one of the largest biodiesel facilities in the U.S. including business plan, construction oversight and product off-take agreement with major retail fueling stations.

30 Million Gallon Biodiesel Plant in Iowa with Multiple Feedstock Capability

FBA completed the comprehensive feasibility study for Western Iowa Energy. Plant is operating as one of the largest biodiesel facilities in the U.S.

Biodiesel Feasibility Study for Largest Oilseed Processor in the World

Examined technical and marketing aspects of biodiesel production for multiple biodiesel locations in multiple states. FBA developed financial projections for various facility sizes.

Comprehensive Study for \$51 Billion Pharmaceutical Company

Feasibility of retrofitting an idled pharmaceutical facility into a large-scale biodiesel facility including capital and operating estimates.

Biodiesel Feasibility Study for Automobile Manufacturer

Examined the feasibility of a large-scale biodiesel facility utilizing truck, rail and barge transportation. Primary investor is a major car company.

Biodiesel Technology Analysis for World's Largest Meat Processor

Technical evaluation of viable technologies for converting various types of animal fat into biodiesel.

Global Fats & Oils Market Workshop

Conducted one day seminar on availability and use of fats and oils for Fortune 100 energy company.

Comprehensive Marketing Analysis for Large International Investment Bank

Evaluated the market feasibility of an 86 million gallon biodiesel plant located at a port location in the Gulf of Mexico. Assessed the viability of utilizing imported feedstocks and exporting to biodiesel markets in the European Union.

Biodiesel Market Overview for World's Two Largest Debt Rating Agencies

Provided market consulting services for first biodiesel plant debt issuance rated by top multinational financial and investment research firms.

Renewable Diesel Process Review in Canada

Evaluated process technology to produce "green diesel" in Canada. Compared benefits versus production of methyl esters in cold-weather climates.

Relevant Project Experience

BIODIESEL (CONTINUED)

Biodiesel Feasibility Study in Canada

Evaluated feasibility of biodiesel production in Ontario in conjunction with a co-located soybean processing facility.

30 Million Gallon Biodiesel Plant in Michigan

Feasibility study, technology evaluation and project development services for first large-scale biodiesel plant utilizing multiple modular production units.

30 Million Gallon Biodiesel Plant in New Jersey

Feasibility study, business plan, and project development for a state-of-the-art biodiesel facility.

Biodiesel Feasibility Analysis for Stand-Alone Facility in Virginia

Provided a clear and concise analysis to allow for a rapid start-up of a biodiesel facility. Plant was subsequently visited by the President once it became operational.

Statewide Biodiesel Feasibility Studies in Mississippi, Arkansas, Tennessee, Georgia, and Ohio

Developed comprehensive analysis as a basis for commercializing biodiesel projects in those states.

Biodiesel and Biomass Research Consultant for the University of Georgia

Provided input and support for biodiesel, ethanol, and biomass feasibility studies.

ETHANOL

Ethanol Feasibility Study for Large U.S. Based Chemical Company

Feasibility of retrofitting an under-utilized chemical plant into a large-scale ethanol facility, including capital and operating estimates.

Cellulosic Biomass Conversion Process Technical Evaluation in Canada

Evaluation of leading cellulosic ethanol technology for large capital investment firm.

Ethanol Feasibility Studies for Multiple Locations

Comprehensive feasibility studies for 9 large-scale ethanol plants (50 – 100 mmgpy) for a single Midwest client. Client is pursuing IPO strategy and has obtained financing.

Iowa Ethanol Feasibility Study

Comprehensive feasibility study for stand-alone ethanol plant with a corn dry fractionation technology utilizing corn feedstock.

Indiana Ethanol Feasibility Study

Comprehensive feasibility study for stand-alone ethanol plant with a corn dry fractionation technology utilizing corn feedstock, and biofuels project with combined ethanol, biodiesel, and biomass uses.

Missouri Ethanol Feasibility Study

Comprehensive feasibility study for stand-alone 50 million gallon ethanol plant.

Consultant Summary

Kenneth E. (Pete) Moss – President – Mr. Moss became president and owner of FBA in 2006. He has over eighteen years of professional experience in oilseed processing, biofuel commercialization, marketing, business plans, and financial analysis. Mr. Moss has a comprehensive understanding of the biofuels industry, feedstock and product value analysis and frequently speaks at financial summits and biofuels seminars. He earned his Bachelor's Degree in Management/Marketing, and his Masters of Business Administration (Executive MBA) from the University of Memphis.

Warren D. Barnes – Vice President – Over twenty-five years of professional experience in commodity processing and refining industries. Extensive operations and engineering skills applicable to both existing and new processing facilities such as oil refining and biodiesel production. Mr. Barnes has developed and implemented several innovative operator training and development programs. He is a leading industry consultant on operational and benchmarking audits as well as ISO 9000 certification. He received his Bachelor's Degree in Mechanical Engineering from North Carolina State University, and his Masters of Management from Central Michigan University.

Gerald U. Sherfy – Vice President of Operations – Extensive experience in ethanol and biomass feasibility analysis and business plans. Mr. Sherfy has provided significant research and analysis for numerous ethanol and biomass projects and is a specialist in feedstock research and financial analysis. Prior to joining FBA, Mr. Sherfy worked in both the real estate appraisal and commercial finance fields. He received a Bachelor's Degree in Physics and an Executive MBA (Masters of Business Administration) from the University of Memphis.

Jeff Babb – Technical Services Consultant – Over forty years process engineering experience in fuel ethanol, wet corn milling, food, beverage, and chemicals. Project involvement is from conception to start-up plus permitting and environmental audits. His Chemical Engineering Degree is from the Georgia Institute of Technology. He is a registered engineer in Georgia and Tennessee.

Don Lossing – Marketing Consultant – Eight years of professional marketing & management experience. Mr. Lossing specializes in the market and economic evaluation of agricultural based processing ventures. Mr. Lossing has conducted market and feasibility analysis for existing and developmental biodiesel, oilseed processing and corn fractionation facilities. He earned his Bachelor of Arts in History and his Masters of Business Administration from the University of Memphis.

John Paul Clark – Engineering Consultant – Ten years of professional design experience that includes facility layout, mechanical design, equipment specification, construction management and some operational start-up experience for both the Ethanol and Biodiesel Industry. He holds a degree in Mechanical Engineering from Boston University.

Billy Griffin, PE – Process Engineer – Mr. Griffin has been providing solutions for process needs for the last 13 years in petroleum, specialty chemical, and renewable resource fields as a chemical engineer. He has extensive experience in environmental and process safety, starting with fugitive emissions estimates for booster sites while still in school at the University of Arkansas through today's demands for complex relief headers. Using his degree in Chemical Engineering he completed in 1994, he has modeled various gas-liquid contactors for reaction, extraction, absorption, and stripping; simulated reaction kinetics for reactor design; and supplied clients with heat and/or material balances for parts of their entire process. He has designed shell and tube heat exchangers and entire Dowtherm heating systems. He was formally trained by Alltech in ethanol production at their alcohol school in Kentucky, but has real world experience in equipment design, installation of equipment, and start-up support. For the past ten years, Mr. Griffin has been in the renewable resources field defining the process and process equipment in primarily ethanol and biodiesel fields. Since the year 2000, he has been a licensed Professional Engineer in the state of Tennessee.

Christy Madlinger – Technical Services Consultant – Seventeen years of diversified management, process and project engineering experience in a number of industries, including fuel ethanol, corn wet milling, beverage, and specialty chemicals. Extensive experience with project development, plant design, plant start-up, operator training, technology evaluations, and environmental permitting support. She received her Bachelor's Degree in Chemical Engineering from Mississippi State University and is a registered Professional Engineer in the state of Tennessee.

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