



A RETAINER SERVICE FROM PIRA ENERGY GROUP

Global Biofuels Service



Making Sense of *the* Biggest Change — and Challenge — To the Energy Industry in the 21st Century

Why Follow the Biofuels Market?

Worldwide biofuels demand will reach about 1,860 MB/D (28.5 billion gallons) in 2010, representing 4.5% of the transportation fuel market. Over 50 countries, including the U.S. and the 27 members of the European Union, have rapidly escalating biofuels mandates. Biofuels consumption is forecast to approximately double by 2020. The industry is now in a restructuring phase. With the rush to enter the business, too many plants were built during 2005-2009. Some of the weaker under-capitalized companies have shut down and exited the business. Oil companies are now entering the business of ethanol production, frequently by way of joint ventures or acquisitions of relatively low cost assets.

The business is now at a crossroads and many issues will determine how biofuels will develop. How will biofuels achieve goals of reducing dependence on foreign oil while obtaining the maximum reduction in greenhouse gases? Will governments provide the necessary support to develop the industry despite having other economic priorities? What will be government targets/mandates going forward? How will biofuels be added to transportation fuel? Can the fuel infrastructure support the adoption of new biofuels? Can fuel be produced from nontraditional feedstocks at a competitive cost? How will they be priced compared to hydrocarbon fuels? How much acceptance will biodiesel achieve in the heating oil and power plant fuel markets? Will biofuels gain acceptance in the aviation market?

For the traditional energy player, however, biofuels development raises broader issues, posing a different set of vexing questions. How much biofuels should energy companies produce? Which companies will be more aggressive in blending biofuels? What will be the impact on energy and related industries, including the need for additional refining capacity? Will biofuels reduce dependence on foreign oil and, if so, by how much? What will be the impact on the demand for, and prices of, crude oil and refined products? How will the use of biofuels impact the transportation fuel infrastructure? Will biofuels adversely affect the food supply and price?

To answer these questions, both established energy companies and new “agri-energy” concerns around the world need a reliable, concise, yet comprehensive and continuous source of historical and current biofuels information and analysis. They also require reasonable and objective market forecasts, allowing them to profitably navigate the rapidly emerging biofuels market. To help them, **PIRA Energy Group's Global Biofuels Service provides the same exhaustive supply-and-demand fundamentals data, analysis, and projections that have been the hallmark of the other PIRA retainer services.**



Global Comprehensive Analysis of Ethanol, Biobutanol, Biodiesel, Renewable Diesel and Drop-in Biofuels

The Global Biofuels Service provides an in-depth analysis of the commercial markets for biofuels in the U.S., Brazil and Europe, which account for about 90% of global ethanol production. Other countries/regions with active ethanol and other biofuels programs are also covered.

PIRA's ongoing analysis tracks and discusses the following issues for each country:

- Government mandates and incentives
- Supply
- Demand
- Trade
- Market structure
- Agricultural feedstocks for production
- Prices

The depth of PIRA's analysis may vary for each individual country, depending on the size and importance of a particular country's biofuels industry and the availability of information.

Particular emphasis is placed on reviewing historical and current ethanol and biodiesel pricing and manufacturing economics in the U.S. and Europe and developing projections built on PIRA's forecast of crude oil and refined product volumes and prices, which are the main price-determining mechanisms for ethanol and biodiesel. Other liquid fuels produced from biological materials, such as renewable diesel, butanol and drop-in fuel will also be covered as those markets develop.

Another important component of the service is an online database of global ethanol and biodiesel plants. This database lists information on existing plants' ownership, location, and firm and probable expansions, as well as an encapsulation of new facilities to be built around the world. When available, data such as specific feedstock, production process, technology provider, capital costs and marketers are also provided.

What Are the “Deliverables” of the Global Biofuels Service?

Clients to the Global Biofuels Service receive the following service features:

1. Comprehensive Monthly Report

The *Global Biofuels Monthly Forecast* provides clients with an up-to-date assessment of the major market dynamics in the U.S. Western Europe and Brazil. The following key issues are covered:

- **Global mandates and targets for biofuels.**
- **U.S. ethanol production, consumption, imports, exports and inventories** – Historical data for the current year and monthly forecasts.
- **Existing capacity, plants under construction and planned facilities.**
- **Company news** – Review of biofuels companies with newsworthy developments, including mergers, acquisitions, joint ventures, equity investments, bankruptcy filings, etc.
- **Biofuels legislation** – Analysis of current and pending regulations that affect the development and use of biofuels.

- **Analysis of topical issues** – Review of issues such as mid-level ethanol blends, new government programs and policies, tariffs and duties, etc.
- **Crude oil and refined products prices** – Historical for the current year and monthly forecasts.
- **U.S. ethanol prices** – Historical prices for New York, Chicago, Gulf Coast and Southern California. Analysis of the price-setting mechanism. Forecast of monthly ethanol prices.
- **Corn, soybean oil, and other raw material prices** – Historical prices and monthly forecast for the U.S.
- **International ethanol prices** – Historical values for Brazilian and European prices.
- **U.S. Midwest ethanol manufacturing economics and corn crush** – Historical economics and monthly forecasts.
- **U.S. and European biodiesel manufacturing economics.**
- **U.S. diesel / biodiesel prices in the Gulf Coast and Midwest** – Historical and monthly forecasts.
- **European diesel and different grades of biodiesel** – Historical prices.
- **Brazilian biofuels production, consumption, legislation and prices.**
- **European biodiesel manufacturing profitability, including feedstock analysis.**

2. Biofuels Weekly Update

This deliverable keeps clients apprised of changes in the industry on a more immediate basis than the monthly forecast, featuring updated U.S. biofuel prices and manufacturing economics. Contents include:

- Ethanol prices (vs. NYRBOB)
- Chicago ethanol price (vs. Chicago ULR)
- NY ethanol vs. Brazil ethanol FOB price
- U.S. ethanol economics and gasoline blending
- U.S. biodiesel economics and prices
- U.S. Renewable Fuel Identification Number pricing (RIN)
- European ethanol and biodiesel prices
- Brazilian domestic and export ethanol prices
- Key market developments

(Note: The Biofuels Weekly Update is not released during weeks in which a monthly report is delivered.)

3. Weekly Ethanol Supply Report

This report — issued each Wednesday — analyzes the data on ethanol included in the U.S. Department of Energy's Weekly Petroleum Status Report. Included are statistics on production, inventories, imports, and ethanol-blended gasoline by PADD.



4. Biofuels in Developing Markets

Delivered typically every two months, this report tracks news and trends in regions outside of the U.S., Western Europe, and Brazil, which are covered in the *Global Biofuels Monthly Forecast*.

5. World Biofuels Forecast

A new annual deliverable (release date March 2012), which will include forecasts of production, demand and trade by region and key countries as well as a review of global mandates.

6. Special Reports, Current News and Analysis Reports and Presentations

Important industry developments, such as legislation, global production forecasts, manufacturing economics, raw material analysis, impact on energy savings, emerging markets, reduction in greenhouse gases, new technology developments, etc., are discussed and analyzed in detail either regularly (e.g., monthly) or on an “as-events-dictate” basis. These include:

- **One-off “exposés”** that delve deeply into a certain key topics. Recent reports include:
 - *Cellulosic Ethanol: Companies Technology and Recent Developments (due in October 2011)*
 - *EPA Approves 15% Ethanol for New Cars*
 - *RFS2: Final Regulations*
 - *Algae: The Next Big Biofuel*
 - *Aviation Biofuels*
 - *Cellulosic Ethanol: Companies, Technology and Government Funding*
 - *The Canadian Biofuels Industry*
 - *The Impact of California’s Low Carbon Fuel Standard on Biofuels*
 - *EU Draft Renewable Directive Analysis*
 - *Brazilian Ethanol Dynamics*
 - *Analysis of U.S. Duty-Free Ethanol Trade*
 - *A Review of Government Biofuels Policies by Country*
- **Presentations (online PowerPoint slide shows) from recent conferences.**

7. World Biofuels Plant Database

A key feature of the Service, the World Biofuels Plant Database includes an up-to-date forecast of existing and planned ethanol and biodiesel facilities. Thus far, analyses of ethanol plants in the U.S., Europe, Canada, Brazil, China, the Caribbean, the Philippines, Thailand and Australia, as well as biodiesel plants in the U.S., Europe, China, Argentina, Thailand and Canada have been completed. Biofuels capacity in other countries will be rolled out when available. Clients have the ability to search listings by year, company, region, country, U.S. PADD, etc.



8. PIRA Online

All reports, data tables, and presentations associated with the Global Biofuels Retainer Service are available to clients through a customized Biofuels Service “portal” on PIRA Online. The portal contains additional information such as global production forecasts and U.S. state mandates.

All Biofuels Retainer clients get access to the biofuels module of the Energy Price Portal, which provides a short- and long-term view of biofuels prices in the U.S., the leading market for ethanol. It also includes biodiesel and ethanol in Chicago and ethanol in New York. Short-term monthly forecasts are updated at the end of each month, following the completion of the *Global Biofuels Monthly Forecast* report. Longer-term annual prices to 2020 are updated every quarter following the oil prices update schedule.

9. Access to PIRA Staff

Biofuels Service clients are entitled to contact PIRA's biofuels analysts via email or telephone for information gathering and analytical support.

Fees

The annual fee to receive the Global Biofuels Service is \$19,500, which allows access for up to 10 users located at one client site. (Clients requiring usage beyond “10 at 1” should contact their PIRA representative for a custom quote.) The fee for existing clients to one PIRA retainer service is \$13,000 per year; clients of two or more retainer services pay \$12,000.

Who Can Benefit from the Global Biofuels Retainer Service?

PIRA's Global Biofuels Service keeps clients up to speed with market intelligence and fundamentals analysis that can be relied on to make key decisions easier. And as the industry develops, keeping abreast of current information and market dynamics is crucial for these industry participants:

- **Energy companies — producers, refiners, blenders, storage companies, shippers and traders** — all will be able to make better-informed decisions on where and when to secure biofuels, improving flexibility and diversifying sources for their business.
- **Manufacturers of ethanol and biodiesel** will be able to monitor supply/demand developments and better identify market opportunities. Specifically, the agricultural feedstock and biofuels pricing projections are useful for negotiating contracts.
- **Agricultural companies / biofuel feedstock suppliers** will gain valuable information for marketing biofuels and be in a position to review the possibilities for downstream integration.
- **Banks and financial companies** will be able to better evaluate projects for potential investment or financing opportunities.
- **Technology and engineering companies** can monitor developments in the industry and identify business trends and opportunities.
- **Transportation companies** can assess the impact of the biofuel industry on their businesses.



The Biofuels Group:

Dr. Bruce H. Pickover (Senior Director) has directed the Global Biofuels Service since its inception in 2006. Dr. Pickover began his career at ExxonMobil, where he worked on petrochemicals and the refinery interface. He spent 27 years at consulting company Chem Systems where he was responsible for the Petroleum and Petrochemical Economics (PPE) program, multi-client studies, and commercial proprietary studies. Dr. Pickover has a Bachelors of Chemical Engineering from the City College of N.Y. and a M.Ch.E and Ph.D. from New York University.

David A. Zinamon (Managing Director, Refining and Environmental Affairs) specializes in refined products, refinery operations, NGLs, alternative fuels and environmental matters, particularly as they affect petroleum product markets. Among other activities he is responsible for PIRA's World Refinery Database. Dave also authors PIRA's monthly NGL market report. Dave joined PIRA in 1984 after seven years of international energy consulting experience with Chem Systems. This followed several years of manufacturing, marketing and planning positions with Celanese Chemical, GAF Corp., and Airco. Mr. Zinamon has a B.Ch.E. from City College of New York and an M.B.A. from Rutgers University.

Dr. Mark Schwartz (President) works closely with PIRA's Global Oil and Natural Gas groups to evaluate the key assumptions underlying their outlooks and to develop plausible alternative assumptions and outcomes. Before joining PIRA in 2002, he was the Chief Economist of ExxonMobil Corp., where he was responsible for developing the company's long-range economic and energy outlook. During his 25 years at Exxon he also had assignments in Upstream Planning, Treasurers, and Corporate Planning functions. He holds a Ph.D. in economics from the University of Pennsylvania.

Corey Lavinsky (Senior Analyst) joined PIRA in 2009. He was most recently CEO of Growthink Research, a Los Angeles-based firm that provides a proprietary database of venture-backed companies, funding transactions, and executives, directors and advisors. Prior to that, he was an attorney at Klutho, Cody & Kilo (St. Louis). He has a J.D. from the University of Missouri and a B.A. in mathematics from SUNY Binghamton.



Global Biofuels Service

Prospectus

PIRA Energy Group
Retainer Client Services

Acceptance Form

We wish to become a client to PIRA Energy Group's GLOBAL BIOFUELS SERVICE, and we understand and agree that the fee for the service is (circle as appropriate). NOTE: **Discounts are available to clients of the Retainer Services listed below:**

- Global Oil
- North American Natural Gas
- North American Electricity
- European Natural Gas
- European Electricity



Company Status	Annual Fee
Non-Retainer Client	\$19,500
Client of One Retainer	\$13,000
Client of Two Retainers	\$12,000

- Prices are applicable through December 31, 2012.
- GLOBAL BIOFUELS SERVICE is provided for the exclusive use of the subscribing company, which may distribute its material internally to a total of 10 people at one site. Additional distribution rights may be obtained through a site license. For licensing options, contact your PIRA sales representative.
- GLOBAL BIOFUELS SERVICE contains no confidential technical information to the best knowledge of PIRA. However, except for information that is or becomes available to the public in printed publication, or is already in the possession of, or developed independently by, the client, or is received by the client in good faith from a third party, any information in the service is for the sole and confidential use of the client. Client agrees to use reasonable efforts to protect the confidential nature of the information supplied to it.

Company: _____

Name/Title: _____

Address: _____

Phone: _____ Fax: _____

Email: _____

Total Fee: _____

Signature: _____

PLEASE MAIL, FAX, OR E-MAIL TO:

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