



PIRA Energy Group  
Quarterly Newsletter  
Fall 2011

**Interested in One of PIRA's Online Services?**

View an online demo at [www.pira.com](http://www.pira.com) on the client homepage. Demonstrations are available for most of our services and can help you decide which one is right for you.

**PIRA University Seminars in 2011**

**Global Oil Markets**  
November 15-16, 2011  
Singapore

**International Gas Markets**  
November 15, 2011  
Singapore

**Natural Gas Markets**  
December 12-13, 2011  
New York, NY

**Global Oil Markets**  
December 14-15, 2011  
New York, NY

**Coal and Emissions Markets**  
December 14-15, 2011  
New York, NY

## Sign Up for PIRA's Training Programs

PIRA University's newest training seminar for 2011, *Understanding International Gas Markets*, will be held on November 15, 2011, in Singapore. The program focuses on the fundamentals of regional natural gas markets in Europe and North America and their growing relationship to Asian markets.

Other upcoming PIRA University training seminars include:

*Understanding Global Oil Markets*  
(Singapore and New York)

*Understanding Natural Gas Markets*  
(New York)

*Understanding Coal and Emissions Markets*  
(New York)

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## PIRA to Offer World Energy Demand Model

PIRA has recently completed a comprehensive update and enhancement of its proprietary World Energy Demand model, which will soon be offered as a new service to clients. The model and its extensive dataset cover annual energy demand by sector, fuel and product for 143 countries, with history back to 1990 and projections through 2025. The World Energy Demand

model is driven by PIRA's detailed projections for country-specific GDP and population growth, oil prices, fuel substitution, technological change and efficiency gains. Besides having every possible data point for the PIRA Reference Case, users will be able to test their own assumptions and run customized demand scenarios.

**Continued on page 2**

## New Global Consumer Gas Pricing Service

In 4Q11, PIRA will introduce the Global Consumer Gas Pricing Service to meet what we see as a growing need for understanding prices in distinct gas markets. With the most comprehensive and unique collection of global natural gas end user prices available anywhere, this service will

provide prices that go well beyond the conventional look at wholesale prices such as NBP, Henry Hub, and oil-indexed gas in Europe and Asia, accessing a deeper layer of data that until now was largely fragmented.

**Continued on page 4**

## Register Now for PIRA's Asia-Pacific Retainer Client Seminar in Singapore

For the first time, PIRA will be conducting a one-day energy markets seminar for its Asia-Pacific Retainer Clients on November 14, 2011, at The Fullerton Hotel in Singapore. PIRA is delighted for this opportu-

nity to provide an outlook, both short- and long-term, for global oil, gas (LNG), and coal markets as well as focused discussions on regional issues of particular interest to our clients in Asia. **Continued on page 6**

## PIRA's Global Biofuels Service Expands Offerings

Biofuels production and consumption are at all-time highs, and many countries have laws requiring their use. World biofuels use is expected to increase from 29.5 billion gallons (1,846 MB/D) in 2010 to 31.1 billion gallons (1,924 MB/D) in 2011.

Meanwhile, the industry is facing numerous challenges, including limited government resources to promote investment, resistance to higher concentrations of ethanol in gasoline, and slow growth of next-generation technology.



To better assist clients in navigating these shifting waters, PIRA has expanded the Global Biofuels Retainer Service with:

- A weekly analysis of the DOE's Petroleum Status Report.
- An upcoming Special Report on cellulosic ethanol technology (due in October).
- A new annual deliverable, the *World Biofuels Forecast* (release date March 2012), which will include projections of production, demand and trade by region and key countries as well as a review of global mandates.

## PIRA's World Energy Demand Model

*(Continued from page 1)*

The World Energy Demand Model, to be offered as a new fee-based service, combines exogenous projections — e.g. GDP and population growth — with country and sector specific assumptions about income and price elasticities to project annual energy demand across nine sectors for 10 non-oil fuels and 19 oil products. The short-term portion of PIRA's Reference Case forecast is updated every month with PIRA's Oil Market Outlook, and the longer-term projections are revised and updated at least twice per year.

The World Energy Demand model has two key capabilities: the Scenario Manager and the Reporting Engine. In the Scenario Manager, users can create their own energy demand forecast, taking PIRA's Reference Case as a starting point and modifying assumptions about economic and population growth, oil prices, energy supplies, or model parameters such as income or price elasticities. In the Reporting Engine, users can create reports for world, regional or country-level en-

ergy demand, aggregating by sector or by fuel. Users can access PIRA's most current Reference Case and compare it with a case of their own creation or with a previous PIRA case. Reports created in the Reporting Engine can easily be downloaded into user spreadsheets.

The sectors covered in PIRA's World Energy Demand model include:

- Distribution
- Own Use
- Industrial
- Non-Energy
- Power Generation
- Residential, Commercial and Public Administration
- Transportation – Bunkers
- Transportation – Cars
- Transportation – Other

The non-oil fuels covered in PIRA's World Energy Demand model include:

- Coal
  - Bituminous and Coke
  - Sub-bituminous
  - Brown Coal and Lignite
- Combustibles (traditional biomass)
- Electricity

- Natural Gas
- Hydro
- Nuclear
- Renewables
  - Combustibles, Renewables and Waste
  - Solar, Wind and Other

The oil products covered in PIRA's World Energy Demand model include:

- Aviation Gasoline
- Biodiesel
- Bitumen
- Crude Oil
- Ethane
- Ethanol
- Gasoil/Diesel
- Jet Fuel Kerosene
- LPG (Excluding Ethane)
- Lubricants
- Motor Gasoline
- Naphtha
- Natural Gas Liquids
- Other Products
- Paraffin Waxes
- Petroleum Coke
- Refinery Gas (Still Gas)
- Residual Fuel Oil: High Sulfur
- Residual Fuel Oil: Low Sulfur

# PIRA Unveils New Natural Gas Pipeline Scrapes

Published in the supplemental data tables accompanying the *Gas Flash Weekly*, PIRA's new pipeline scrapes model includes coverage of approximately 95% of Lower 48 dry gas production.

Since debuting in May, the pipeline model has been continuously augmented to generate greater regional and play-specific granularity of daily production scrapes. In particular,

these ongoing enhancements reflect the integration of numerous intra-state pipelines into our individual regional and play-specific breakdowns based on those pipelines' daily nominations first reported in late 2010.

Our daily U.S. gas production pipeline scrapes are also used internally to make PIRA's weekly and monthly gas production estimates

more closely approximate "real time" market coverage. These data also provide invaluable guidance in estimating LNG sendouts from domestic terminals, net gas trade with Canada and Mexico, domestic gas demand by sector, and changes in U.S. storage. We plan also to expand coverage of the model to report weekly estimates of western Canadian gas production in the weekly *Gas Flash*.

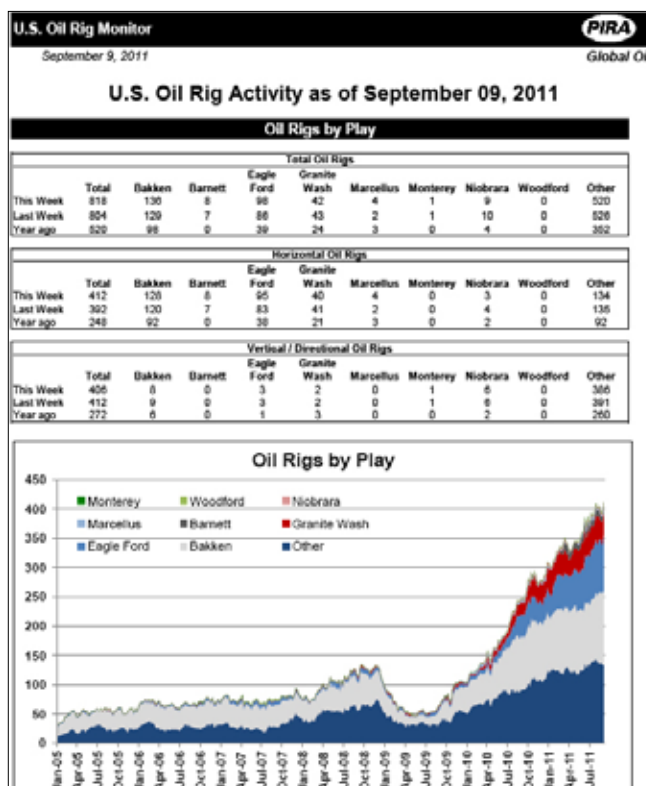
**Table 3: Weekly Production Pipeline Scrapes (BCF/D)\***

Week-Ending	Lower 48 Dry Gas			Selected Shale Gas Plays							
	Total	W/O Shale	Offshore GOM	Sum	Haynes LA	Haynes TX	Fayette	Eagle Ford	Marcellus	Barnett	Woodford Arkoma
Week-In-Progress*	55.81	33.81	2.24	22.00	6.35	1.99	2.65	1.14	3.12	5.72	1.03
09/02/11	58.63	36.67	4.68	21.96	6.28	2.06	2.67	1.13	3.09	5.72	1.01
08/26/11	58.74	36.99	4.94	21.75	6.12	2.13	2.60	1.12	3.05	5.70	1.03
08/19/11	58.57	36.97	4.91	21.60	6.10	2.10	2.58	1.13	3.04	5.64	1.01
08/12/11	58.45	37.21	4.98	21.24	6.07	2.02	2.47	1.11	3.00	5.58	0.98
08/05/11	58.29	37.09	4.71	21.20	6.05	2.06	2.48	1.07	2.95	5.60	0.99

# PIRA Upgrades U.S. Gas Rig Monitor to Include Oil Activity

In July, PIRA introduced a significantly upgraded version of the weekly *U.S. Gas Rig Monitor*, now capturing the growing impact of oil and liquids-oriented drilling on U.S. natural gas production. The expanded report provides a detailed summary of oil, gas and total drilling activity on a regional and play-specific basis, as well as a breakdown of horizontal versus vertical directional drilling.

Released on Fridays shortly after the rig count data are available, the report is published along with a supplementary data file and is available to all North American Natural Gas Retainer clients.



# PIRA's New Global Consumer Gas Pricing Service

*(Continued from page 1)*

The unique and proprietary dataset that will form the core of the Global Consumer Gas Pricing Service will include data on over 110 countries and territories, ranging from 1967 to the present day. With over 100,000 prices updated on a quarterly basis, the database will be unrivalled in its completeness and currency. Each price connects to additional meta-data, including an end-user category and other final components such as taxes, transportation, and distribution. Each observation has been reduced down to a single price expressed in the local currency and units, as well as US\$/MMBtu.

The Global Consumer Gas Pricing Service will be integrated with PIRA's existing Energy Price Portal. Clients will have access to consumer gas pricing in many countries having largely isolated domestic gas markets, where gas pricing is not only highly



specialized, but also largely disconnected from global gas benchmarks of both the spot- and oil-indexed variety. The service will give clients access to updated consumer prices in these markets, and thus the ability to make informed commercial decisions.

A prospectus will be available in the coming weeks. In the meantime, please contact your PIRA Account Representative if you have an interest in this service and would like to find out more.

## New PIRA Staff

**Ayse Porter** has joined PIRA as a senior analyst responsible for expanding coverage of the domestic and international light ends markets. Her previous industry experience, spanning over a decade, includes naphtha research and consulting for Poten and Partners, LPG/naphtha trading for Louis Dreyfus Highbridge Energy and, most recently, for Credit Suisse. Ayse has a BA in biology with a concentration in chemistry from Bryn Mawr College.

**Sheena Eaton** recently joined PIRA as a senior analyst in the North American Natural Gas Group. She brings five years of upstream oil and gas experience to the team, and she will be contributing to all of the group's major reports. Prior to join-

ing PIRA, she worked as both a reservoir engineer and reserves analyst at Nexen, one of Canada's largest, international exploration and production firms. Sheena was directly involved with managing the company's reserves estimates and disclosures, and she played a key role in responding to the SEC's Modernization of Oil and Gas Reporting in 2009. She has a B.E. in chemical engineering from the University of Saskatchewan.

**Jeffrey Berman** joins PIRA as an Analyst in the Emissions and Clean Energy Group, where he will be assisting with assessments of the EU ETS and Kyoto carbon markets and researching renewable power technologies. He holds a Master's degree in energy policy and finance from

Columbia University and a Bachelor's degree from the London School of Economics. Prior to earning his Masters, he worked as a research assistant and data manager at MDRC, a New York-based public policy research organization.

**Simon P. Heald** is responsible for developing a new PIRA service focused on global retail energy. He recently joined PIRA after spending over a decade at Centrica Plc in the U.K., where he had a number of product- and portfolio-management roles, including the creation and maintenance of econometric models for profit optimization, risk mitigation and price management. Simon studied mathematics at Cardiff University.

# Residual Fuel Oil Study to Be Updated in Early 2012

Coming in the first half of 2012 is a multi-client, *The Future of Residual Fuel Oil*, an update to PIRA's well

received *Bottom of the Barrel* study of 2007. A prospectus will be available in 4Q11. In the meantime, please

contact your PIRA Account Representative if you are interested in finding out more about this study.

## Tilting the Balances: A Comprehensive Look at Energy in China through 2025 — A New Multi-Client Study

PIRA will release a comprehensive study on the Chinese energy sector that will help clients understand and follow the unprecedented future relationship between China's energy needs and the country's ability to secure it. This study is significant to companies interested in not only China, but also how China will influence the global energy picture.

The Chinese government is determined to keep its country's economic engine running in high gear, which will require an unprecedented alignment of foreign and domestic energy resources that buyers and sellers alike must deal with on an absolute and seasonal levels.

The Chinese energy market is unique. No country faces as much pressure in providing so much energy to so many people in so little time. No single country carries as much weight in altering the incremental world energy balance as China. The country's looming energy demand growth is casting a worrisome shadow on competing buyers while opening unprecedented opportunities to sellers.

From domestic production to international imports, China stands at center stage in terms of competitive fuel use and pricing, including oil vs. gas, coal vs. nuclear power, and greenhouse gas vs. renewable. What China cannot produce it will import, and it is prepared to purchase these



resources as far upstream as possible. The volume, quantity, price, and type of fuel will depend on where and when this need occurs. What central planners in China ultimately decide must benefit the country's unique socioeconomic "ecosystem." This process is the defining characteristic of Chinese energy policy and will determine the timing, volume, sources, and distribution pattern of various energy resources.

China's breakneck pace of development calls for a top-to-bottom understanding of how much energy it wants, how much it needs, how much it is willing to pay, and how its goals can be reached. PIRA believes that any prognosis on China's energy demand potential that is based solely on mechanical number crunching is drastically missing the point. Cultural and political positions carry at least as much weight. For example, the Chinese have be-

lieved for millennia that taming their ravaging rivers is a sign of positive governance; therefore, the enormous Three Gorges Water Dam was built despite controversies.

PIRA's China study will combine its industry-leading global energy forecasting prowess with an intimate interpretation of what motivates the Chinese. It will look at:

- Supply and demand, fuel switching, and the role of different energy sources in different sectors.
- Regional differences in seasonal demand, price tolerance, and fuel availability.
- Effects of political and cultural tendencies in China.

A prospectus will be available in the coming weeks. In the meantime, please contact your PIRA Account Representative if you are interested in finding out more about this study.

# PIRA's Asia-Pacific Retainer Client Seminar to Be Held On November 14 in Singapore

(Continued from page 1)

This one-day seminar will provide a short- and long-term outlook for global crude oil and petroleum products, natural gas, electric power, coal, and emissions, focusing on Asian markets. It also examines the major structural changes expected in various world energy markets.

If you have not yet registered, you can do so either online or by fax until **Friday, November 4, 2011**. Registration forms can be found at: <http://www.pira.com/ClientServices/Seminars/AsiaSemRegistrationForm.pdf>

## Asia-Pacific Retainer Client Agenda

9:00 am - Registration & Continental Breakfast  
 9:30 am - World Oil Markets  
 10:10am - Geopolitical Developments  
 10:30am - Global Gas and LNG Markets  
 11:00am - Break  
 11:20am - World Refining and Product Markets  
 11:50am - Global Coal Markets and Trade Prospects  
 12:15pm - Longer-Term Trends and Issues  
 12:40pm - Lunch  
 2:00pm - Asia's Energy Requirements: How Will They Be Met?  
 2:30pm - Competitiveness of North American LNG Exports to Asia  
 3:00pm - Globalization of Shale Gas  
 3:20pm - Break  
 3:40pm - Prospects for Marker Crudes and Asian Crude Pricing  
 4:05pm - Asian Crude and Product Flows  
 4:30pm - Fuel Demand in Asian Power Generation  
 5:00-6:30pm - Cocktail Reception

## PIRA University Energy Training Seminars

PIRA University's ("PIRA U.") training programs cover industry structure, forecasting methodology, supply/demand fundamentals and other drivers of price, including geopolitical risk and the role of speculators.

### What makes PIRA's training seminars different?

- 1) While most training programs provide instruction on the technical aspects of production and refining, PIRA provides unique insights into the industry's commercial aspects and their bearing on market movements.
- 2) The instructors are PIRA's full-time energy consultants who have spent most of their careers in the energy industry, as economists, engineers, or analysts. Their collective energy market experience, knowledge and expertise form the foundation of PIRA University.
- 3) PIRA U's proven ability to help students build a solid framework for

analyzing data, interpreting news, events, policy announcements, and weather fluctuations helps attendees better understand the drivers of energy prices.

### Who should enroll?

PIRA U's commercial insight will be valuable to a range of industry participants. Those who are relatively inexperienced can gain a more comprehensive understanding of what to expect in the energy market and why. At the same time, those already possessing knowledge of much of the subject material can gain valuable insights into the impact of new and emerging factors on energy markets.

The following professionals can all benefit from PIRA University:

- **Analysts** who require an edge on their competition in finding, understanding and interpreting key market data.
- **Energy traders** who need to anticipate where prices are heading before the markets react.

- **Planners** who have to stay on top of the changes that will drive the profitability of their companies' operations, strategies and investments.
  - **Risk managers** who need to understand what really drives the ups and downs of energy markets and what options are available to manage the inherent uncertainty.
  - **Refiners** who want to understand key elements that drive their profitability.
  - **Hedge fund and pension fund managers** whose success may be directly tied to getting a jump on where energy prices are going and knowing which segments of the industry are the right play.
  - **Government officials** who will be involved in regulations that will impact the energy markets.
  - **Banks and other financial institutions** that provide financing for projects and need to assess risks and uncertainties in the long-range outlook for prices.
- See next page for seminars in 2011.**

### **Understanding Global Oil Markets**

November 15-16, 2011

The Fullerton Hotel, Singapore

December 14-15, 2011

Hilton New York Hotel, New York

Provides an intensive, in-depth look at market fundamentals and pricing and forecasts of near- and long-term crude and product prices and margins. Includes an extensive discussion of the role of speculators, the impact of geopolitical issues and other risk factors, and the development of long-term price scenarios.

The following is the preliminary list of seminar topics:

- Crude Oil Supplies
- Crude and Product Demand Forecasting
- Trends in Product Mix and Quality
- Refining Investment Trends
- Investment Money and the Oil Market
- Factors Affecting Near-Term Prices
- Crude Differentials and Product Spreads
- Global Crude and Product Flows
- Geopolitics and Oil Markets
- Long-Term Crude Pricing and Uncertainty

Register by **October 28, 2011** (New York) for the early-bird discount.

### **Understanding International Gas Markets**

November 15, 2011

The Fullerton Hotel, Singapore

Developed by PIRA's Global LNG Group, this training seminar will discuss the issues of seasonal demand influences, gas storage, transportation and arbitrage as well as the potential for growth in unconventional supplies worldwide.

The following is the preliminary list of seminar topics:

- Global Gas Overview
- North American Gas Balances
- Asian Gas Balances
- European Gas Balances
- LNG Transportation Costs and Spot Trade Drivers
- LNG Supply/Demand Balances
- Gas Price Outlook: Oil-Gas Relationship
- Gas Storage and International Trade
- International Gas Price Arbitrage
- Global Unconventional Gas Supplies
- Long-Term Oil/Gas Outlook

### **Understanding Natural Gas Markets**

December 12-13, 2011

Hilton New York, New York

Teaches the essential commercial activities and decisions that tie together volumes and prices in the emerging global gas market. Helps clients develop a richer, more in-depth view of what drives North American, European, and Asian gas prices — while also helping them test their own assessments of the outlook for prices.

The following is the preliminary list of seminar topics:

- Global Gas Overview
- North American Supply Structure and Evolution
- North American Natural Gas Demand
- U.S. Gas Balances and Near-Term Price
- Global and Regional Gas Markets
- Global LNG Supply and Demand
- LNG Transportation, Spot Markets and Arbitrage
- Price Drivers in European and Asian Markets
- Longer-Term Oil and Gas Markets
- N.A. Transportation Infrastructure and Basis

Register by **October 28, 2011** for the early-bird discount.

### **Understanding Coal and Emissions Markets**

December 14-15, 2011

Hilton New York Hotel, New York

This training seminar examines the impact of emissions markets and clean energy alternatives on coal utilization. Among the regulatory developments covered in the course are the Cross-State Air Pollution Rule (CSAPR), the HAP MACT regulations, federal GHG regulations as well as California's carbon policies and carbon market.

The following is the preliminary list of seminar topics:

- Coal Supply Basics
- Coal Utilization
- N.A. Regulations and Emissions Markets
- Carbon/GHG Regulations and Markets
- Clean Technology Case Studies
- Coal Demand and Emissions Modeling
- Impact of Renewable Energy on Coal Units
- International Coal Markets
- Interfuel Competition
- Coal Trading
- U.S. Coal Balances and Price Outlook

Register by **October 28, 2011** for the early-bird discount.



# Why over 500 Companies in some 60 Countries Use PIRA's Services

Fall 2011

PIRA Quarterly

## Experience

For 35 years, PIRA Energy Group has provided the world's most commercially oriented market research and analytical services focusing on global crude oil and refined petroleum products, natural gas, LNG, electricity, coal, biofuels, freight and emissions markets.

## Independent Research

PIRA's products are completely independent and uninfluenced by a market position or our clientele. We only have a vested interest in being right.

## Client Base

PIRA's unbiased intelligence is relied on by a diverse roster of more than 500 companies worldwide, including major international and national oil and gas companies, independent producers, refiners, trading companies, pipelines, utilities, industrial end-users, financial institutions, and government agencies.

## Expansive Market Coverage

The breadth of market coverage and array of services put PIRA's energy services on a level of their own. No other firm provides the same comprehensive data and integrated analysis on virtually every significant aspect of the energy market.

## Forecasting

PIRA's purpose is to look at the forward market and provide forecasts and analysis of global and regional supply/demand and prices. All of our forecasts are backed up by clearly defined market assumptions that we present in our fundamentals analysis.

## Frequent Updates & Reporting

While other firms may produce quarterly or monthly reports, PIRA provides daily and weekly coverage of energy markets in order to keep our clients constantly abreast of the ongoing changes that occur every day.



## PIRA Energy Group Offices & Representatives

### USA HEADQUARTERS

3 Park Avenue  
26th Floor  
New York, NY 10016-5989  
Tel: 1.212.686.6808  
Fax: 1.212.686.6628

### New Products/Services

sales@pira.com

### Client Support Issues

support@pira.com

### Billing Issues

accounting@pira.com

### EUROPE/ASIA-PACIFIC

Miles Hemsall  
United Kingdom  
Tel: +44.1493.751.316  
Fax: +44.1493.752.287  
Email: miles@pira.com

Andreas Kakarougas-Koch  
Germany  
Tel: +49.7642.920.825  
Fax: +49.7642.920.826  
Email: akkoch@pira.com

Michael Morrison  
Singapore  
Tel: +65 65209727  
Fax: +65 68264124  
Email: mmorrison@pira.com