



PIRA Energy Group
 Quarterly Newsletter
 Winter 2010

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New PIRA Studies

- *Planning for Tomorrow: PIRA's Five-Year Outlook for Crude Oil and Refined Products Markets, 2010-2015*

Upcoming Events

Canadian Retainer Client Seminar
 June 8, 2010
 Calgary, Canada

Scenario Planning Client Roundtable
 June 14, 2010
 London, UK

London Retainer Client Seminar
 June 14-15, 2010
 London, UK

PIRA U. Global Oil Markets Seminar
 June 16-17, 2010
 London, UK

PIRA U. Global Oil Markets Seminar
 June 23-24, 2010
 Houston, TX



New PIRA Multi-Client Study: *Planning for Tomorrow, 2010-2015*

In its updated annual multi-client study, *Planning for Tomorrow: PIRA's Five-Year Outlook for Crude Oil and Refined Products Markets, 2010-2015*, PIRA incorporates its latest analysis of oil market developments extending through 2015, to provide the guideposts for five-year strategic plans and market research.

This study will cover all the key aspects of the oil market: demand drivers; oil demand, supply, and price; refined products, cracks, and margins; trade flows; and freight rates.

Planning for Tomorrow will be comprehensive, not only covering conventional liquids, the rapidly growing volume of alternative fuels, and refined-product

markets, but also placing oil demand and supply in the context of all other fuels and the specific characteristics of each end-use. While the study will cover the global market as a whole, it will also delve deeply into key regions and individual countries, taking into account the relationships of specific markets and arbitrage opportunities between them. And it will be internally consistent between these regions/countries and across products to allow the accurate comparison of project economics in different business units and regions.

This multi-client oil study is due for release March 2010.

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Crude Slates to Be Available on World Refinery Database

Already providing up-to-date assessment of planned refinery investments, including additions and new construction, PIRA's World Refinery Database continues to add new capabilities to the service to enhance its usefulness to subscribers. Recent new features include refinery-by-refinery crude runs histories, capacity data expansion, refinery acquisitions details and tracking of new grassroots refineries.

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PIRA Expands Emissions Coverage to Include Renewables

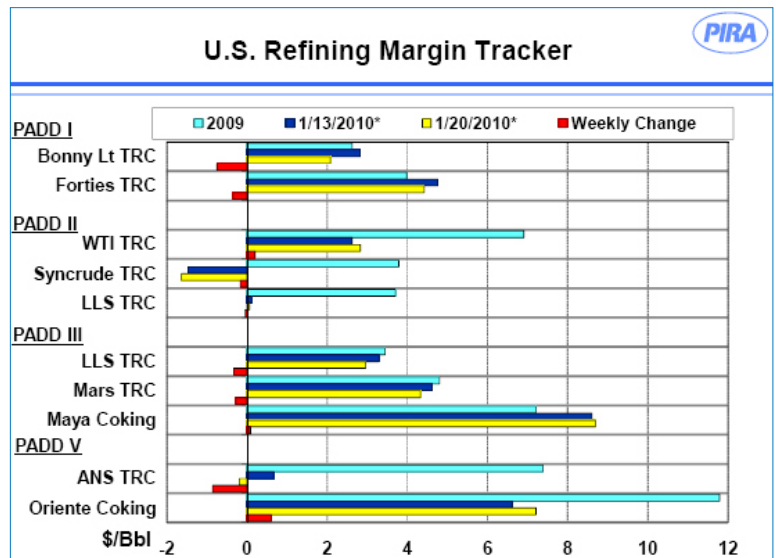
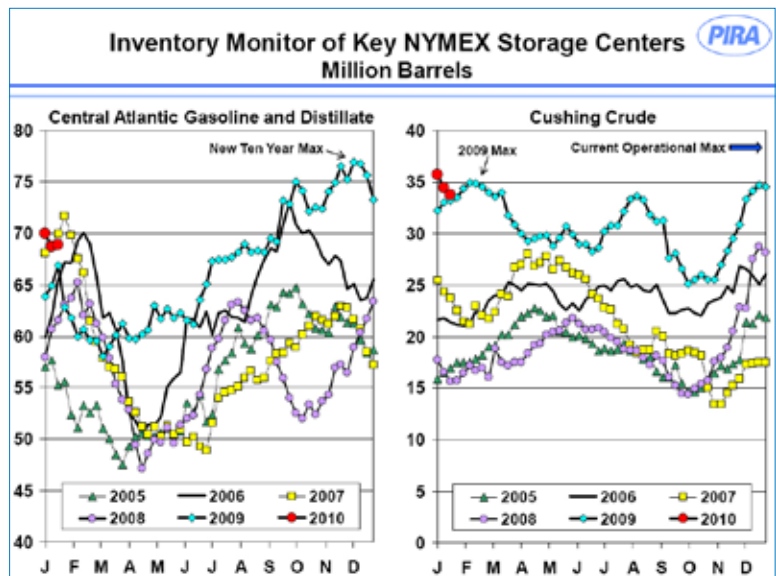
PIRA's emissions markets coverage is expanding to cover renewables, also known as renewable power. This includes assessments of potential market mechanisms (including renewable energy credits, or RECs) designed to incentivize renewables. Thus, PIRA's North American Emissions Markets Intelligence Service will now be called North American Environmental Markets Service.

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Enhancements to PIRA's DOE Analysis Report

Recent enhancements to the DOE Weekly Analysis report includes the addition of an analysis of U.S. refining margins and NYMEX storage centers. The PADD-level refining margin tracker provides the economic context underpinning changes in crude runs. Its focus is on the changes recently observed and their causes and, more important, what they imply for the very near future. For example, in January, outages of Canadian synthetic crude raised its price relative to WTI, increasing the incentive for refiners to run WTI, leading to a tighter inventory situation at Cushing than would otherwise have been the case.

With Cushing as the pricing point for NYMEX WTI, the storage position is closely monitored and presented in the weekly report. In early December product stocks in the Central Atlantic region were at a 10-year high. With the pricing point for NYMEX products, gasoline and distillate in New York Harbor, the storage situation is especially significant and monitored in the weekly, along with numerous other factors of significance to the industry.



PIRA Completes Global Biofuels Special Reports

Biofuels continues to be one of the fastest growing segments of the energy industry as companies strive for energy independence and combat climate change. The current focus in the market is on "second generation" biofuels; that is, biofuels from feedstocks that cannot be used for food and/or result in greater savings in greenhouse gases than sugar-/grain-based products. PIRA is placing an emphasis in the Biofuels Service on the state of these advanced biofuels, discussing them in two recent special reports: *Cellulosic Ethanol: Companies,*

Technology and Government Funding and *Algae: The Next Big Biofuel*. Also, keep an eye out for an upcoming re-

port covering the potential for biofuels in the aviation industry.



New Refinery Database Enhancements Allow Users to Add Crude Slates

(Continued from page 1)

PIRA's World Refinery Database has been a trend-setting tool since its introduction in 2005.

PIRA is very pleased to announce the addition of a revolutionary new capability. **In 2010, the database will be dramatically enhanced to allow users, for an additional fee, to include refinery-by-refinery crude runs histories. These data will include:**

- Historical annual crude runs estimates by refinery starting with 2005.
- Breakout of refinery runs by major crude type.

To our knowledge, no one else provides such globally comprehensive, refinery-by-refinery slate data. **The uses for this new capability span a wide range:** crude sellers could use it to identify potential buyers for their crude; refining planners

can evaluate the demand for crude grades regionally and how it compares with refinery capacity/utilization; and crude traders could use it to evaluate the impact of particular refinery outages on crude balances by grade.

In addition, the database includes new free enhancements, like a **comprehensive historical breakdown of capacity and process unit configuration** for every refinery and associated units in the world. In addition to promptly updating the status of these existing refineries and future projects multiple times each year (and the projects are changing fast now), PIRA continues to add additional capabilities to the service to enhance its usefulness to our clients.

Recent new features include:

- Separate tracking of new grass-roots refineries
- Announced closures and "idled" refineries, and

- Refinery acquisition details.

Also this year, **the capacity data will be expanded to include heavy crude oil upgrading projects** (e.g., Canadian oil sands) as well as gas-to-liquids facilities.



Planning for Tomorrow: PIRA's Five-Year Outlook for Crude Oil and Refined Product Markets, 2010-2015

(Continued from page 1)

PIRA realizes that effective strategic planning in the oil industry requires a set of assumptions that is comprehensive, global, and internally consistent. Developing these detailed assumptions and bases requires time-consuming analysis by experts in many different disciplines.

Therefore, this study was created to save companies the time associated with this arduous task by bringing together its global energy analysis, models, and forecasting intelligence to provide a comprehensive, internally consistent, and up-to-date outlook for oil industry planning and market research.

Planning for Tomorrow will provide an invaluable tool for oil industry planning and market research by offering these features:

- **Comprehensive online database**
- **The outlook for global energy demand**
- **The outlook for liquids supply**
- **A forecast for crude oil pricing**
- **The outlook for global refining**
- **The outlook for crude and refined product trade**

Subscribers can also elect an add-on option to receive forecasts of net-back value and an analysis of the drivers of the differential relationships between key regional benchmark crudes for an additional fee.



PIRA's EES Enhanced with Power Plant New Build And Capital Costs Monitor

The collapse of European industrial loads occurred in 2008-09 and the consequential narrowing of the power generators' margins is generating equivalent supply-side responses, with their timing and magnitude representing key uncertainties to European power price developments. While some projects under development and construction are being challenged by environmental groups, other projects are being altogether cancelled and other plants have been put on hold, as developers wait for an improvement in credit or market conditions.

In order to allow clients to closely monitor the changes in projected new build capacity coming on-line, **PIRA's European Electricity Service (EES) web portal is now enhanced with a more comprehensive power plant projects database for major Western European markets.** It is available under the section "Installed Capacity."

All concrete plans to increase fossil fuel capacity are presented, together with developers, location, expected commissioning dates, and fuel options. The new build presents a key critical input in PIRA's EES price forecasting, and updates of the capacity additions will be made available promptly to clients.

In addition, EES clients will now be able to better track new build costs for a typical coal- and gas-fired plant through a model that calculates marginal costs and all-inclusive capital costs. While key assumptions are provided, clients are also able to tailor assumptions. Developments in overnight capital costs will also be added, so that all-inclusive costs can be put into an historical perspective.



PIRA Energy Group - The Leader in Worldwide Energy Market Analysis and Intelligence			
ANALYSIS			
▶ Monthly Analysis			
▶ Scorecard			
▶ Special Features			
DATA & KEY TRENDS			
▶ Macro Europe			
▶ Demand			
▶ Installed Capacity			
Historical			
Going Forward			
▶ NuclearWatch			
▶ HydroWatch			
▶ Wind			
▶ SO2/CL/LCPD			
▶ Load/Fuel			
▶ Prices			
▶ Regulations			
1	Fuel prices data as of February 4th 2010		
2	Capital costs as of 2009		
3			
4	EURUSD		
5	CO2 EUR/t		
6			
7		Hard coal	Gas
8		FGD+SCR	CCGT
9	Interest	8%	8%
10	Amortize over (Yrs)	30	15
11	Hours	7000	5000
12	Heat rate	8978.95	7385.28
13	Efficiency	38%	46%
14			
15	Scrubbers	225	225
16			
17	Levelized scrubbers \$/kw	(\$19.99)	(\$19.99)
18			
19	Overnight capital costs \$/KW	225	2000
20			
21	Levelized \$/KW	(\$19.99)	(\$177.65)
22			
23	Capital \$/MWh	\$2.86	\$25.38
24			
25	O&M ex fuel	10.78	
26	variable	4.02	3.21
27			
28	Fixed \$/kw	41.4	57.96
29	Fixed \$/MWh	5.91	8.28
30			
31	Capital+Operational	\$12.79	\$36.87
32			
33	Coal prices \$/ton	95.00	
34	MMBtu/ton	23.81	
35			
36	\$/Metric ton		
37	\$/Barel		
38			
39	Gas prices \$/MMBtu	3.99	7.07
40	EUR/MWh		17.49
41			
42	Gross emissions		
43	lb/mmBtu	205.59	205.59
44	kg/mmBtu	93.34	93.34
45			
46	Ratio gross/net	1.0	1.1

Sample of the new build costs for Western European markets from PIRA's European Electricity Service (EES)

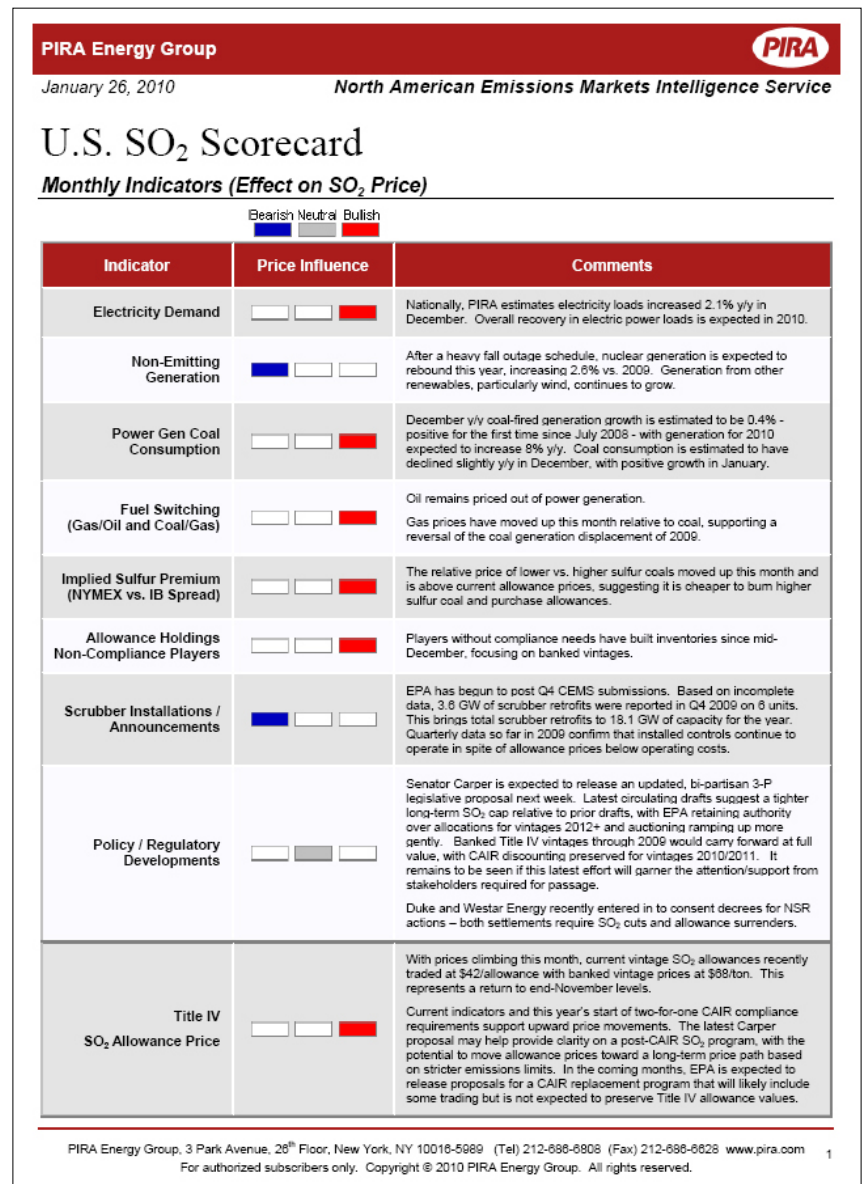
PIRA's North American Environmental Markets Service

PIRA's North American Environmental Markets Service (the new full name for PIRA's N.A. EMIS) gives clients both the big picture — for perspective on significant long-term emissions market developments — as well as up-to-date, detailed data and analysis needed to make informed near-term decisions. PIRA examines the forces that affect the U.S. acid rain, fine particulate and ozone-related markets (i.e. NO_x and SO₂) as well as emerging controls and markets for mercury and greenhouse gases.

The development of U.S. and Canadian greenhouse gas regulations and markets are covered in detail in order to provide a sense of the environmental pressures on existing and future emitters. Policies and markets promoting renewables have joined the suite of market-based approaches encouraging “clean energy,” and these are also addressed in this context.

Clients of N.A. EMS benefit from the following:

- **Near- and long-term emissions price forecasts.** These assessments draw upon the experience of PIRA's consultants and on research and in sight into market fundamentals.
- **Assessment of renewable power development.** PIRA assesses the costs of different technology — both for developers and for the power sector — and analyzes the likely penetration of renewable generation.
- **Comprehensive analysis of current and prospective legislative and regulatory developments** on the national, regional and local levels.
- **Examination of NO_x/SO₂ compliance issues,** including
 - the Acid Rain Program, SIP Call/Ozone, CAIR, Regional Haze, NSR, PSD and others.
- **Monitoring and analysis of trends in emissions performance at the plant level,** including the installation of controls technology and performance, and the implications for meeting current and proposed regulations. Clients have access upon request to special databases, including detailed compilations of installed and planned scrubber and SCR units developed for this purpose.
- **Economic analysis of compliance choices,** including fuel switching, long-term technology options, credit purchases, etc.
- **Skilled assessments of the impact of potential policy scenarios.**
- **Special reports highlighting issues related to current and prospective business strategies, risks and opportunities.**
- **Non-partisan coverage of the evolving political, social and business reactions** to the issues.



PIRA's Calendar of Events for 2010



Canadian Retainer Client Seminar

The Fairmont Palliser Hotel
133 9th Avenue SW
Calgary, Canada
June 8, 2010

Scenario Planning Service Client Roundtable

<i>London Hilton Hotel</i> 22 Park Lane London, UK June 14, 2010	<i>Four Seasons Hotel</i> 1300 Lamar Houston, TX June 22, 2010
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European Retainer Client Seminar

London Hilton Hotel
22 Park Lane
London, UK
June 14-15, 2010

PIRA University: Understanding Global Oil Markets

<i>London Hilton Hotel</i> 22 Park Lane London, UK June 16-17, 2010	<i>Four Seasons Hotel</i> 1300 Lamar Houston, TX June 23-24, 2010
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Hotel and Date - TBA
Singapore
November 2010

Hilton New York
1335 Avenue of the Americas
New York, NY
December 15-16, 2010



PIRA's Annual Retainer Client Seminar

Hilton New York
1335 Avenue of the Americas
New York, NY
October 21-22, 2010

PIRA University: Understanding Natural Gas Markets

Hilton New York
1335 Avenue of the Americas
New York, NY
December 13-14, 2010



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

Winter 2010

PIRA Quarterly

Experience

For over 30 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, 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 the world's most significant oil and gas producers, refiners, and consumers, as well as many financial players, including energy-specific banking groups and financiers, investment houses, hedge funds, and other private portfolio companies and commodity trading firms.

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 everyday.



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