



### North American Natural Gas Retainer

A comprehensive service that keeps clients updated on U.S., Canadian, and Mexican market developments, while providing fundamental market analysis, market intelligence, and superior client service.

### Components of the Natural Gas Retainer:

#### North American Gas Forecast Monthly

Sent to clients monthly in advance of bidweek, this report provides short- and medium-term gas price forecasts (12-24 months out) for the U.S. Canada, and Mexico. It discusses the fundamentals driving price projections, including electric power and industrial sector impacts on gas demand, new supply developments, and key additions to pipelines. Key factors driving PIRA's projections of production, storage and demand are clearly described. **The report is segmented into five parts:**

- 1) An executive summary highlighting PIRA's view on factors impacting gas prices
- 2) A "Featured Topic" section that discusses one issue of special significance to the gas market
- 3) Detailed analysis of gas market fundamentals
- 4) An assessment of regional gas prices
- 5) A separate Excel supply/demand data and price forecast workbook

#### North American Gas Trade Monthly

Released approximately two weeks removed from the *Gas Forecast Monthly* (typically on Tuesdays), a focus on factors expected to influence near-term U.S. imports of gas from Canada and from LNG as well as exports to Mexico, allowing for closer and more timely attention to individual topics.

#### Gas Flash Weekly

Sent each Thursday after the EIA releases its storage survey, a concise analysis of the results of the numbers and timely update to PIRA's short-term gas market fundamentals and price outlook. It includes a statistical summary of U.S. gas rig counts of the Lower 48, projections of U.S. and Canadian monthly gas balances and end-month storage levels as well as identifying weather-related impacts on supply/demand and longer-term changes in storage.

#### Regional Gas Price Forecasts

Available via PIRA Online, monthly, short- and long-term basis price projections (through 2020) for the U.S. East Coast, Midwest, West Coast, the Gulf of Mexico and Canada.

**North American Gas Forecast Monthly**  
June 23, 2006

**North American Gas Forecast Monthly**

The 2006 injection season is now well underway, and U.S. gas balances have yet to tighten enough to pare the staggering Y/Y storage surplus. Indeed, the inventory overhang remains largely intact relative to the level starting the season despite declining gas prices and unusually high cooling degree days (CDDs) throughout the second quarter — particularly in regions where gas is at the margin for electric generation (EG).

It is "getting late early" for the U.S. gas market in that with almost three months of the injection season now past, the window of opportunity to "fix" the situation is closing, making the more truncated remaining period subject to more extreme price weakness and/or "divine intervention" for the required solution. Be it four or whatever, many continue to believe hot weather and/or a new wave of storm-driven production losses will emerge to forestall the need for lower gas prices. As a result, NYMEX futures have oscillated within a \$6-\$8/MMBtu range for the past three months that has yet to achieve progress with respect to the storage surplus.

In only a few weeks, the U.S. will pass the peak for normal temperatures. By end-July, bullish concerns centered on EG gas demand will be diminished, leaving price support hinged to hurricane fears. With July bidweek prices poised to be near, if not above June, and the lack of a bullish weather outlook for next month, a radical upward demand shift does not seem in the offing. Consequently, a crisis of sorts looms for the later stages of the injection season. Even before summer officially began, more than a half dozen pipeline storage operators warned that storage was filling too quickly. All market participants should take heed of such warnings given their bullish gas market and related price implications.

**1. NEW AND EMERGING FACTOR**

**Persistent Bullish Fears:** Since February, gas prices have been whipped due to conflict at times between underlying fundamentals and "market psychology." Gas market fundamentals have been by and large bearish, but bullish fears, be it hot weather or storm related, have been strong enough at times to buoy prices. While lower highs and lower lows have been realized amidst the market's ups and downs, the market's inability to keep gas prices under pressure, has set the stage for a potential storage "crisis" as opposed to a "soft landing."

**Mfg. Gas Intensity Stabilizing:** Despite the reported preliminary May '06 Manufacturing Index (MI) decline, IH06 Y/Y growth is poised to reach ~5% and full-year '06 growth should average 4.5-5.0%. Yet a changing mix in output and more efficient energy use are offsetting the impact on industrial gas demand, yielding lower usage for a given output level. If the ratio stabilizes at the lower levels realized in IH06, '06 industrial demand would rise, but only marginally. The negative impact from last year's hurricanes, though, would inflate the Y/Y gain closer to 1.0 BCF/D.

**Summer EG Reduction:** About another abnormally hot summer, power sector growth prospects will be curtailed in the months ahead, due to tough Y/Y CDD comparisons and indications that base-load electricity growth will be relatively

**PIRA ENERGY GROUP**  
April 7, 2009

**North American Gas Trade Monthly**

BCF/D	2008 Actual					2009 Actual		2009 Forecast		
	Jan.-Feb.	Mar.	Apr.	May	Jun.	Jan.-Feb.	Mar.	Apr.	May	Jun.
U.S. Net Imports	8.56	7.92	8.18	7.11	7.42	7.47	7.46	7.46	7.57	7.81
Canadian Gas	8.80	8.12	8.02	8.92	7.30	7.46	7.27	6.86	6.81	6.79
LNG	0.86	0.76	1.07	1.02	1.10	0.93	1.19	1.30	1.50	1.70
Mexican Exports	-1.10	-0.96	-0.91	-0.83	-0.98	-0.92	-0.91	-0.79	-0.74	-0.68

During March, U.S. net gas imports lagged the year-earlier pace by only 0.5 BCF/D, narrowing Y/Y declines to roughly half the January-February average. Deficits from Canada remained intact, but stronger Y/Y and MM LNG imports were behind the smaller overall deficits relative to a year ago. During the current month, we expect overall Y/Y gas import comparisons to be very similar to last month, although LNG should continue to creep higher. In May and June, however, U.S. imports seem likely to exceed year-earlier level by 0.4-0.6 BCF/D. In Canada's case, smaller deficits would enable much easier Y/Y comparisons that reflect the unusually sharp falloff from April to May a year ago. Otherwise, the major explanation will be substantially stronger LNG imports.

North of the border, PIRA foresees falling WCSB gas output owing largely to declines in Alberta's rig activity and dry production. Those declines will exceed the positive developments in British Columbia whose significant ramp up in rig activity is putting BC activity next par with Alberta for the first time. With the exit of the heating season, Canadian storage inventories remain unusually large. Although March core demand was boosted by colder than 10-yr normal heating degree days, the



## PIRA Online

In addition to timely and convenient access short- and long-term price forecasts for U.S. and Canadian gas markets, PIRA Online also presents updates on NYMEX activity and provides data on supply, demand, drilling, and storage for different hubs, as well as historical data and excerpts from our constantly updated databases. PIRA Online allows clients to utilize multiple-user, multi-site licenses. **Other energy-related reports and data available on PIRA Online include:**

- Online access to PIRA's regularly updated **macroeconomic data** (currencies, U.S. economy and manufacturing, world economies and air travel)
- **Global Equity Market Performance** – updated weekly, this report tracks the performance of equity markets in countries and regions around the world.
- **Storm Watch** - the latest tracking information from the National Hurricane Center for storms that threaten oil and gas production facilities in the Gulf of Mexico
- Slideshow presenting **latest available air traffic data** for the total system and international air travel for the U.S. and Europe.
- **Weather-impact maps** for Baltic and Black seas and **temperature maps** for U.S., Europe, the former Soviet Union, and East Asia

## Special Reports

More in-depth, topic-specific analysis is provided in periodic special reports, including analysis of regional gas production in the U.S. and Canada.

## Strategic Briefings

Brings PIRA's senior gas consultants and a client together on a private basis to discuss PIRA's latest thinking and address each client's specific issues, by assessing how the markets impact their business and examining topics of special interest as requested.

## Phone Access to PIRA's Natural Gas Group

Clients can obtain timely analytical support and discuss with PIRA analysts our latest thinking and insight on short-term natural gas markets, or to gather additional market information or data.

## Annual Retainer Client Seminar

The Seminar presents PIRA's medium- and long-term view of oil, gas, coal and electricity markets. Attendees receive a detailed book on world energy forecasts by region and energy source through 2025, as well as presentation slides on the major structural changes expected in various world energy markets.

## Discounts on PIRA's Other Retainers and Multi-client Studies

Clients get significant discounts when adding other retainers (e.g. Global Oil, N.A. Electric Power, European Natural Gas, European Electricity, and Scenario Planning Service) or when purchasing a multi-client study. Recent studies include *The Changing Face of North American Supply*.

## Fees

Existing PIRA Retainer Clients may subscribe under discounted terms, which are determined by the scope of their current license. For prices, please contact your PIRA Account Executive.



## North American Natural Gas Group:

**Gregory J. Shuttlesworth** (*Executive Director*) oversees PIRA's research covering all aspects of North American natural gas fundamentals. His work is aimed at providing PIRA clients with in-depth and timely analysis of how fast-breaking events will impact gas supply and demand, inter-fuel competition, and the outlook for gas prices. He is a principal author of PIRA's *Gas Forecast Monthly*, *Gas Flash Weekly*, and *Gas Trade Monthly*. Before starting PIRA's Natural Gas Group, his professional career centered on global petroleum and related energy economics. He held the positions of Senior Analyst at the petroleum-consulting firm of W.J. Levy Associates and Energy Economist at the Chase Manhattan Bank. Mr. Shuttlesworth holds a B.A. from Johns Hopkins University, an M.B.A from Fairleigh Dickinson University and completed post-Masters studies in economics at NYU.

**Richard M. Redash** (*Managing Director*) has over 15 years of energy industry experience with current responsibilities centered on fundamentals analysis. He is a principal author of PIRA's *Gas Forecast Monthly*, *Gas Flash Weekly*, and *Gas Trade Monthly*. He leads PIRA's regional gas market coverage and basis analysis. Mr. Redash came to PIRA in 1999 from Prudential Securities, where he was Vice President of Energy Futures Research with responsibility for fundamentals encompassing the NYMEX energy complex. Previously, he was a NYMEX Research Department analyst covering natural gas, global crude oil and petroleum products and prior to NYMEX he had been a gas market analyst at Consolidated Edison of New York. He is a summa cum laude graduate from Pace University with a Bachelors of Business Administration and holds an MBA with distinction from New York University.

**Harvey L. Harmon** (*Senior Director*) has nearly 30 years of energy industry experience. Before joining PIRA, he worked at the U.S. DOE as Director of Natural Gas Import/Export Activities and Senior LNG Policy Advisor. He joined the Global LNG unit of El Paso in 2001 and was responsible for competitor and market analysis until 2003. He has been a consultant for Shell Gas & Power on LNG issues. Previously while at Tennessee Gas Pipeline and El Paso, he spearheaded numerous studies of demand, pipeline capacity and transportation issues with emphasis on competition at citygate markets. Earlier in his career at Fluor Daniel, he spent several years in Saudi Arabia designing offshore platforms. Mr. Harmon holds a M.S. in ocean engineering from the University of Wisconsin and an M.B.A from the University of Texas.

**Ekrem A. Esmen** (*Associate Director*) is PIRA's leading analyst for unconventional gas resources. On both supply and demand side of the ledger, he closely follows cutting-edge technologies and evaluates their potential impacts. His analysis on the demand side covers a wide range from the viability of natural gas use in transportation to the dynamics of mandatory fundamental changes in space lighting. Ekrem has also developed weather-driven electric load forecast models and created databases focusing on global weather and hourly load data in addition to authoring articles on gasification, coal liquefaction, and carbon capture and sequestration. Prior to PIRA, he was a visiting engineer at the Massachusetts Institute of Technology, where he also completed his graduate studies in mechanical engineering.



*Jane Hsu (Senior Analyst)* was a Systems Analyst for Strand Management Solutions prior to PIRA. At PIRA she focuses on North American natural gas fundamentals and is responsible for maintaining and updating PIRA's detailed North American supply/demand balances as well as numerous analytical models that represent the backbone of PIRA's near-term and longer-term forecasts. Jane has a BS degree in computer science from Columbia University.

*Tai Liu (Senior Analyst)* is responsible for PIRA's weekly natural gas storage forecast and contributes regularly to the North American Gas Group's weekly and monthly reports. He also covers the short-term outlook for the Mexican gas market as well as Canadian gas demand, exports, and storage. Before joining PIRA in 2007, Tai worked at the natural gas hedging desk at Consolidated Edison of New York and was responsible for conducting fundamental analysis on the natural gas market and recommended hedging strategies. Prior to Con Edison, Tai worked at NYAM, a commodities options trading firm, where he executed trades and managed option positions for traders. Tai holds a BS degree from New York University, where he majored in finance and accounting.

*Nina Fahy (Analyst)* recently joined the North American Natural Gas Group, Nina is responsible for PIRA's weekly natural gas storage forecast and other short-term models. Prior to joining PIRA, Nina designed and implemented research studies of the global investment management industry at Greenwich Associates. Nina is a summa cum laude graduate from Tufts University with a Bachelors of Arts degree in political science and Russian and east European studies. She also holds a Masters of Science in political science from the Massachusetts Institute of Technology. She is a member of Phi Beta Kappa and has passed the CFA Level 1 Exam.