A Multi-Client Study in Four Parts

Ready for Prime Time: Future Rockies Supply and Western Basis

FIRST IN A SERIES OF FOUR REGIONAL STUDIES

The next 10 years will witness radical shifts in both the regional and geological mix of North America natural gas supply, which will have profound impacts on regional pricing. On one hand, most conventional supply areas have been extensively explored, but record-high prices are generating intensive E&P efforts to offset the negative impact of that maturity. One consequence is an unprecedented re-orientation in upstream spending toward non-conventional supply such as gas from tight formations, shale and coal-bed methane — a change bound to dramatically slow decline of indigenous production. On the other hand, the massive expansion of LNG imports will have an equally profound impact on the mix of gas supply especially in coastal regions (Eastern, Gulf Coast, and Western).

These supply dynamics and their related effects on infrastructure will influence the bottom line of virtually every North American gas market player. For starters, escalating costs associated with record-high gas drilling could subject the returns on new E&P expenditures to the greatest risks since the early 1980s. At the same time, a timely understanding of these regional changes will give gas marketers (including LNG suppliers) a decisive competitive advantage when assessing market risks and opportunities. The same can be said when dealing with such issues as customer cost of service, supply sourcing and diversification, the ability of merchants to build new gas-fired electricity generation, and company merger values.

To address these supply dynamics, PIRA Energy Group, in collaboration with Lippman Consulting Inc. (LCI), is offering a new series of multi-client studies, THE CHANGING FACE OF NORTH AMERICAN GAS SUPPLY. Each study combines the intensive use of LCI's basin-by-basin Gas Forecast and Pipeline Loading models with PIRA's price-forecasting expertise. They are, in order:

1. "**Future Rockies Supply and Western Basis"** focuses on the impact of future gas supply — including LNG — on western U.S. infrastructure and regional pricing.
2. "**The Outlook for Gulf of Mexico Supply and Pricing"** will provide an in-depth review and analysis of the anticipated consequences of rapidly expanding LNG imports on the region's infrastructure, gas marketing and pricing.
3. "**The Outlook for Western Canadian Supply and Exports"** will scrutinize in particular such issues as the region's expected tradeoffs between declining conventional gas and expanding non-conventional gas, the Mackenzie Delta, and gas demand associated with heavy oil recovery.
4. "**The Outlook for East Coast Supply and Pricing**" will complete the by-region analysis and forecast of Lower 48 production and then assess how the region's prospects for gas demand and expanding LNG imports will influence gas values at key eastern pricing points.

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Why four different studies?

The four designated regions are unique from one another, distinguishable in terms of supply/demand, infrastructure and basis pricing, thus warranting their own comprehensive, dedicated analysis. The **Rockies** possesses dynamic supply potential tied to non-conventional gas production and market access. The **Gulf of Mexico** faces indigenous production challenges that will interface with expanding volumes of LNG and future demand in the region's electric power and industrial sectors. **Western Canada** also faces production challenges plus Arctic pipeline and heavy-oil recovery issues, while **East Coast** markets must cope with future North American production, LNG imports, and local demand issues (especially in the power sector) that will profoundly affect gas values within the region and in relation to Gulf Coast gas prices.

Each study includes:

- An in-depth outlook of factors driving each region's future gas supply and demand.
- Analysis of the related impacts on each region's gas infrastructure and pricing, including seasonality.
- Regional reference case projections through 2015 by year, as well as alternative scenarios that test the impact of key variables on those projections.

THE FIRST STUDY

Ready for Prime Time: Future Rockies Supply and Western Basis

Introduction: The U.S. Rocky Mountains' time has come in terms of moving firmly into the role as North America's shining star of expanding gas production. Between 1999 and 2005, Rockies dry gas output jumped almost 75% from 4.3 to 7.4 BCF/D. Coal bed methane (CBM) from basins east of the Continental Divide, such as Powder River and Raton, made important contributions to that growth. Of late, the focal point of supply growth has been west of the Continental Divide in such basins as Piceance and Green River.

Eastern Basins	Western Basins
Big Horn	Green River
Denver-Jules	Paradox
Powder River	Piceance
Raton	Thrust Belt
Wind River	Uintah

Looking ahead, the fate of U.S. gas production will rest heavily on the performance of the Rockies. PIRA's Reference Case projects that the region's output will be in a 9-10 BCF/D range by 2010 before climbing into the vicinity of 10-11 BCF/D by 2015. **If so, the Rockies' share of Lower 48 gas production would jump from ~14% to within striking distance of 25% (based on PIRA's outlook for other supply areas).**

Yet, typical and innate characteristics of the Rockies' reserves being targeted will weigh heavily on the pace of output expansion. In addition, the relative immaturity of the region mandates timely infrastructure additions, which require considerable capital investment and face regulatory hurdles and legal challenges.

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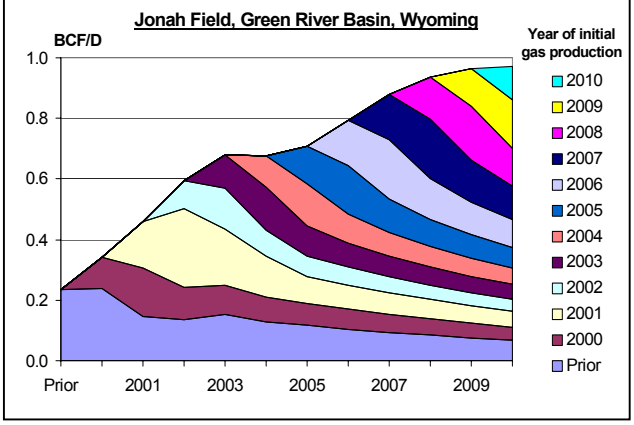
A New Gas Production Forecast: Similar to earlier studies, "Ready for Prime Time" analyzes and forecasts gas production by year for the listed individual basins through 2015. **However, unlike previous studies, this study's "bottom-up" vintage models deal effectively with the wide-ranging variety of specific plays within those basins and, therefore, is in a superior position to assess the innate characteristics of targeted reserves.**

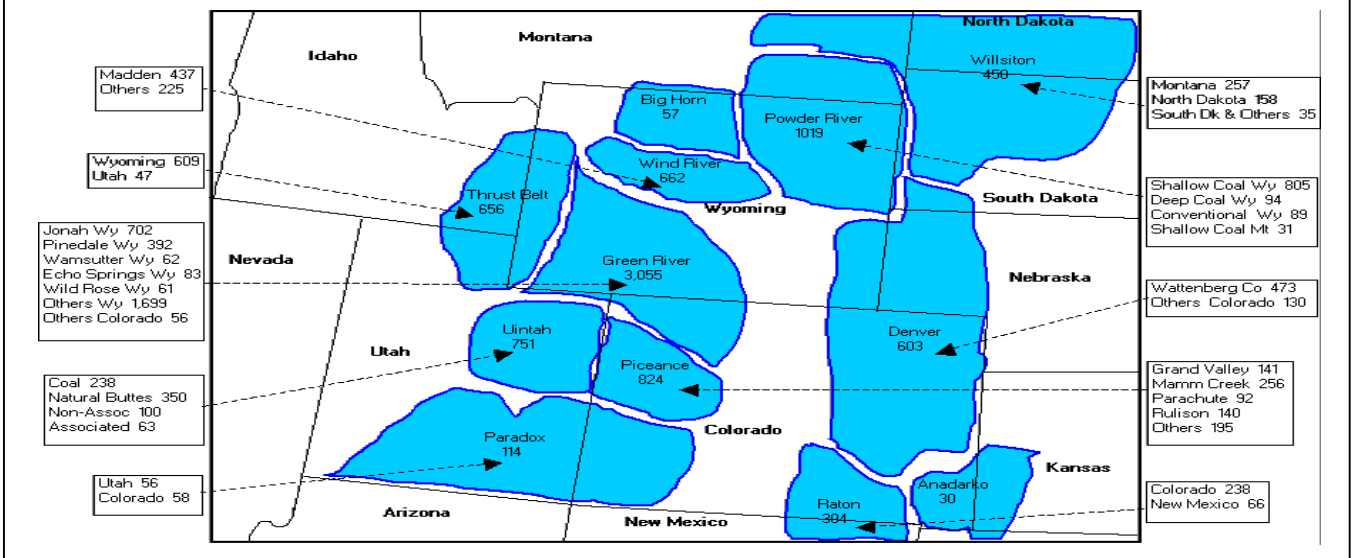
Illustration of an LCI Gas Production Model By Vintage



Using LCI's proprietary models, "**Ready for Prime Time" forecasts gas output year-by-year and field-by-field by age of wells for fields of special interest**. By doing so, future gas production scenarios will incorporate explicit decline curves that reflect the unique well characteristics and prospects of those key fields, giving the region's current and future players the type of comprehensive analysis they will require.

In the hot Piceance Basin, for example, vintage modeling singles out such established fields as Mamm Creek, Grand Valley, Parachute, and Rulison (a group responsible for three-quarters of the Basin's current gas production). Vintage models are also employed for other key fields in Green River Basin (Jonah, Pinedale Anticline, Wamsutter, Echo Springs, and Wild Rose), in Uintah (Greater Natural Buttes), in Wind River (Madden), in Denver-Jules (Wattenberg), as well as shallow CBM (Wyodak) versus deeper CBM (Big George) plays in the Powder River.

Rockies Gas Production in Key Fields
2Q05, MMCF/D



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A New Assessment of Production Constraints: Be it drilling, gathering, gas processing or inter- and intrastate pipeline issues, many obstacles threaten to extend the timeline on infrastructure changes and reserve development, both of which would impede production growth. These obstacles come on top of numerous additional roadblocks producers must contend with when attempting to develop reserves: e.g., land access; air, water, and soil quality issues; and wildlife protection measures. In addition, ongoing environmental studies with respect to the impact from additional drilling of the Jonah field, as well as other legal challenges in general, are constraining growth. **A new, "bottom-up" study of Rockies gas production prospects thus will incorporate an updated analysis of all such issues.**

Despite the challenges and ongoing difficulties to attract upper-end equipment and crews to the region, Rockies drilling activity continues to grow. Colorado is leading the latest Rockies advance, and the state remains a hotbed of drilling activity, especially with respect to fields within the Piceance Basin. Activity in Montana and North Dakota is also on a strong upswing. Wyoming gas production growth, however, remains relatively tepid, as has been the case since CBM from the Powder River Basin peaked in 2H03.

Added Study Feature: Rockies' Producer Survey

As part of the Rockies study, PIRA will undertake **a survey of production companies active in the area to ascertain future plans, opportunities, constraints, and production forecasts on a field-by-field basis.** Survey participants will be provided a summary of survey results. Tentatively, PIRA plans to conduct a follow-up survey after the May Workshop.

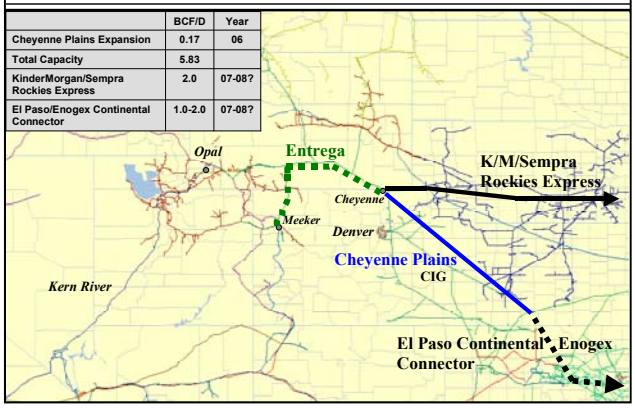
A New Assessment of Pipeline Prospects: Different gas supply scenarios raise the prospect of renewed pipeline-capacity constrains and thus potentially highly negative consequences on regional basis at key pricing points. **"Ready for Prime Time" makes an in-depth infrastructure assessment focused on the timing and impact of specific pipeline projects (a pivotal part of our regional price evaluations). PIRA identifies potential constraints and the anticipated locations of new pipeline capacity.**

The up-trend behind gas exports out of the Rockies underscores regional production growth, which new pipeline capacity additions have facilitated. Throughput on the relatively newly minted Cheyenne Plains pipeline continues to approach capacity, but the relatively slow ascent in flows highlights problems at some producing basins (like PRB) and other infrastructure issues with respect to hot and cold producing areas within the Rockies.

Indeed, more pipeline capacity will be needed within some basins, and that has prompted a wave of proposals, in particular the two "super" pipeline projects, the KM/Sempra "Rockies Express" and El Paso's competing "Continental Connector" (shown in the accompanying map). Looking forward, understanding which pipeline projects are likely to be built, and when, plays an essential role in the analysis of the Rockies. Potential constraints and likely locations of new pipeline capacity are identified and proposed projects are evaluated in regards to their likelihood of success and start-up times.

Rockies Gas Production Will Require Incremental Pipeline Access to Eastern Markets

	BCF/D	Year
Cheyenne Plains Expansion	0.17	06
Total Capacity	5.83	
KinderMorgan/Sempra Rockies Express	2.0	07-08?
El Paso/Enogex Continental Connector	1.0-2.0	07-08?



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A New Assessment of Regional Basis: Regional prices in the Rockies and San Juan will depend heavily on when and where new capacity is added vis-à-vis the size and timing of future production changes. As a result, regional prices and basis differentials for the Rockies (Opal), San Juan (El Paso non-Bondad), California (SoCal) and the Midwest (Chicago) through 2015 will be updated based on the findings of the study. In this process, we will re-visit such key evaluations as producer netbacks from Chicago versus California.

In sum, "Ready for Prime Time: Future Rockies Supply and Western Basis" examines the driving forces behind the future pace of supply development as well as such issues as the interplay between intra-Rockies drilling efforts and supply expansion, the impact of LNG from new West Coast terminals, pipeline assets, new infrastructure investments and regional gas prices. By gaining new insights into these issues, subscribers will be in a position to make more timely and informed decisions related to the future financial performance of western U.S. gas assets, including trading and marketing activities, basis management, firm capacity commitments, acquisitions and divestitures, expansions, gas processing and electric power projects.

CHANGING FACE OF NORTH AMERICAN GAS SUPPLY: FUTURE STUDIES

The Outlook for Gulf of Mexico Supply and Pricing – Study 2

This second study will provide new, in-depth U.S. Gulf Coast indigenous production forecasts as well as assess the timing and impact of specific LNG terminal development. The analysis will take a close look at how huge potential seasonal swings in LNG imports (high summer, low winter) have the potential to dramatically alter the region's supply mix. By doing so, the study will highlight similar infrastructure issues to those addressed in the Rockies study and give subscribers new insights into how these issues will affect future Henry Hub pricing and basis.

The Outlook for Western Canadian Supply and Exports – Study 3

An in-depth look at Western Canadian Sedimentary Basin prospects for conventional gas as well as for tight deep formation gas and coal bed methane. Additionally, factors surrounding the proposed Mackenzie Delta pipeline and future gas requirements for oil sands and bitumen conversions to crude oil demand will be carefully reviewed. In sum, this third part of the series will help determine prospects for western Canadian gas net exports to the U.S. and eastern Canada.

The Outlook for East Coast Supply and Pricing – Study 4

The final study in the series will examine the impact on the region's future gas balances of substantially greater LNG volumes from anticipated new and expanded East Coast terminals (including Canada). The U.S. gas production outlook for areas not already covered in the first three studies will be examined, together with East Coast gas demand prospects. The interplay between East Coast LNG, Gulf Coast LNG, and domestic production will cause fundamental changes in basis at key downstream points such as New York, Appalachia, New England, eastern Canada and the Southeast. Subscribers will gain a better understanding about new potential liquid basis pricing points in large part driven by future eastern Canadian LNG imports as well as large-scale LNG capacity expansions at Cove Point and Elba Island.

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WHO WILL BENEFIT FROM THE CHANGING FACE OF NORTH AMERICAN SUPPLY?

The stakes are high when it comes to making decisions regarding future North American gas balances and basis pricing. Inevitably, market participants will end up on either side of multi-million-dollar gains or losses. "**The Changing Face of North American Gas Supply"** will help market participants keep ahead of the competition through a better understanding of the future interplay between regional gas balances, related infrastructure issues, and regional gas pricing. Those market participants should include:

- **Gas Producers** know the importance of maintaining an in-depth knowledge and sensitivity to prospective regional shifts in North American gas supply in the process of developing E&P strategies with emphasis on maximizing returns on assets. The studies will help producers identify and evaluate the risks of future pipeline-capacity constraints and their impact on regional pricing.
- **Global LNG Suppliers and Marketers** need to keep ahead of regional supply/demand dynamics involving potential transportation constraints and thus affecting marketing strategies to maximize exporter netbacks. The studies also will assess the strengths and weaknesses of competing LNG projects.
- **Pipeline Companies** that effectively anticipate constraints and surpluses in pipeline corridors will have a strategic advantage when valuing existing assets, targeting potential acquisitions and planning expansions. The studies will help clarify the competitive challenges and opportunities facing those pipelines.
- **Local Distribution Companies** face difficult choices regarding the purchase of new supplies and/or the renewal of existing supply arrangements. The studies will assist them to conclude optimal terms under which supply can be contracted given the dynamics of regional competitive forces.
- **Gas and Power Marketers** need timely insights into how changes in regional gas supply and costs will impact the value of power marketers' portfolios as well as marketing strategies and trading desk risks.
- **Electric Generators and Other End-Users** constantly must consider how changing regional gas supply dynamics will influence pipeline service choices, transportation and siting options. The studies will make end-users better equipped to adapt to supply shifts, rather than respond to crises, and help new project developers make more effective evaluations of fuel supply options and project viability.
- **Financial Institutions** must make sound evaluations of how changing market conditions will affect the economics and financing of new drilling, gathering and pipeline ventures.

DATA SOURCES

Gas supply and demand data for "The Changing Face of Gas Supply" come from U.S. federal and state agencies, as well as agencies in Canada and Mexico. Transportation data generally comes from LCI's Database Service, and gas production models reflect proprietary data developed by LCI.

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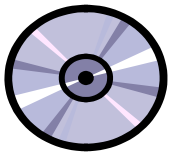
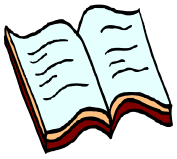
WHAT DO STUDY SUBSCRIBERS RECEIVE?

For each regional study purchased, subscribers will obtain a valuable set of services:



DATABASE. Clients receive three (3) copies of a CD that will provide **historical and forecast region-specific supply/demand and basis point pricing data through 2015.** Where appropriate, gas production will be analyzed and forecast down to individual field levels along with volume flows on specific pipelines. Aggregated results of the Rockies' producers survey will be included. All data will be accessible on Excel spreadsheets.



REPORT. Clients will receive three (3) copies of **the final report, which will spell out the findings of the regional market analysis, a recap the workshop's content, and a discussion of key uncertainties that impact the major findings.** The reports also will link the regional forecasts and alternative cases to PIRA's overall North American gas market Reference Case.

FEES AND OPTIONS

"Ready for Prime Time" — as well as any other study in The Changing Face of North American Gas Supply series — can be purchased on its own or in any combination of regions. Existing PIRA and LCI retainer clients receive a reduced price on all packages. **Fees for multiple regions are discounted** for all subscribers.

For detailed service pricing options, see the Acceptance Form on page 10.

ABOUT PIRA ENERGY GROUP

The PIRA Energy Group, founded in 1976, is an international energy consulting firm, offering Retainer Client Services as well as customized consulting on a broad range of subjects in international oil, natural gas (and LNG), coal, and electricity markets and on related environmental issues. PIRA provides evaluation of key U.S. and international energy issues that impact the behavior and performance of the industry and its various markets and sectors. Currently, more than 480 companies worldwide subscribe to PIRA Client Services, including international and national integrated oil and gas companies, independent producers, refiners, marketers, oil and gas pipelines, electric and gas utilities, industrials, trading companies, financial institutions and government agencies.

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PIRA's North American Natural Gas Group

Gregory J. Shuttlesworth (Managing 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 Production Outlook.* 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 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 (Director) has over 15 years of energy industry experience. At PIRA, Richard's primary responsibility centers on the fundamental analysis and writing of the *Gas Flash Weekly* and *Gas Forecast Monthly* reports. Additionally, he leads PIRA's regional natural gas market coverage and basis studies. Richard came to PIRA in 1999 from Prudential Securities, where he was Vice President of Energy Futures Research and responsible for fundamental research of the NYMEX energy complex. Previously, he was an analyst within the Research Department of NYMEX with responsibilities centered on North American natural gas markets, as well as crude oil and petroleum products. Prior to NYMEX, Rich was 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 (Director) has over 25 years of energy industry experience. Before joining PIRA, he worked at the U.S. Department of Energy as Director of Natural Gas Import/Export Activities and Senior LNG Policy Advisor. He joined the Global LNG unit of El Paso Energy 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 Corporation Mr. Harmon's experience included numerous studies of gas demand, pipeline capacity and transportation issues with emphasis on competition at various 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.

G. Christian Kimmerle (Associate Director) has over 30 years experience in exploration and reserve analysis, energy logistics, nuclear power plant siting, as well as utility regulation and operations. Before PIRA, he served as Executive Director of the Philadelphia Gas Commission (charged with regulation and oversight of the Philadelphia Gas Works). He also held director-level positions at Island Creek and Conrail, and was a geologist at NUS Corp. Chris holds a B.S. in geology from Dalhousie University (Canada) and an MS in resource economics from West Virginia University.

Jane Hsu (Senior Energy 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.

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Thomas Devos (Senior Energy Analyst) is responsible for analysis of energy economics issues together with near-term and long-term gas market fundamentals, with particular focus on Canada. Prior to PIRA, he was a Senior Research Analyst at the Energy Intelligence Group, where he authored studies on global oil, natural gas and LNG. Tom holds a combined BA/MA in finance from Sciences-Po in Paris and a Masters of International Affairs with a concentration in energy management and policy from Columbia.

ABOUT LIPPMAN CONSULTING

From a modest beginning in 1996, LCI has become the nation's largest consulting firm specializing in, and the premier provider of, natural gas supply statistics. It has a diversified staff of 19 professionals, including three engineers, who provide monthly gas production data for all of North America with details by specific basin and by field as well as by type, conventional and CBM. LCI also provides monthly gas flow data for over 50 pipelines, encompassing all major North American gas transmission systems. In addition to having the largest gas supply database in the industry, LCI has two forecast models: one for domestic natural gas production and the other for gas transmission operations. LCI services a large client base, from governmental agencies to producers, pipelines and marketers. For more information on LCI, call (915) 838-1619 or email LCI@LippmanConsulting.com.

George Lippman (President) is a nationally recognized gas supply expert with over 35 years of experience. He has extensive knowledge of the nation's interstate pipeline system and has worked with the various major national gas flow models. Prior to establishing LCI, Mr. Lippman worked in various capacities for the El Paso Natural Gas Co. He is a participating member of various committees dealing with national gas supply issues throughout North America. He has served as the Chairman, Rocky Mountain section of the American Gas Association's Committee on Natural Gas reserves and is currently serving on the Potential Gas Committee. He has worked with the Gas Research Institute (GRI), the Canadian Energy Research Institute (CERI) and the California Energy Commission (CEC). Mr. Lippman holds a BS degree from the University of Arizona School of Engineering.

LCI's engineering staff includes John Uxer and Jeff Peace, who are Registered Professional Engineers in Texas and New Mexico, respectively. Both hold BS degrees and MS degrees in engineering from New Mexico State. Collectively, they have over 50 years of experience in reservoir and gas storage analyses and drilling as well as in production and pipeline operations, particularly in the western U.S. Both have served on the Potential Gas Committee (PGC) and Pipeline Research Committee (PRC) and on AGA committees. They have made numerous presentations on natural gas issues to audiences across the U.S.

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ACCEPTANCE FORM

(Company Name) _____ wishes to subscribe to the multi-client study "The Changing Face of North American Gas Supply" for the following region(s):

❑ Rockies ❑ Gulf Coast ❑ Western Canada ❑ East Coast

We understand and agree that the fees are as follows:

	PIRA/LCI Client*	Non-Client*
One Study	$19,500	$25,000
Two Studies	$37,500	$48,000
Three Studies	$53,500	$68,000
Four Studies	$66,000	$85,000

* New York City-based companies, please add 8.375% sales tax; Long Island-based companies, please add 8.625% sales tax; all other New York State companies, please add the county appropriate sales tax.

Name/Title: _____

Company: _____

Address: _____

_____

Phone/Fax/e-mail: _____

Total Fee: _____

Signature: _____

PLEASE MAIL OR FAX TO:

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Attn.: Managing Director, Client Services
3 Park Avenue, 26th Floor
New York, NY 10016-5989
Phone: (212) 686-6808; Fax: (212) 686-6628; sales@pira.com

Note: ***The Changing Face of North American Gas Supply*** will contain 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 subscriber or developed independently by subscriber, or is received by subscriber in good faith from a third party, any information in the study is for the sole and confidential use of the subscriber. Subscribers agree to use reasonable efforts to protect the confidential nature of the information supplied to them as part of this study.

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