AN INVALUABLE SERVICE THAT DEFINES ALTERNATIVE OUTLOOKS FOR ENERGY PRICES

PIRA'S SCENARIO PLANNING SERVICE

How do we plan for the future, given energy market uncertainty?

The **Scenario Planning Service** defines and tracks the critical assumptions behind our worldwide oil and gas projections. Scenarios are developed as a supplement to our Reference Case projections, consistent with PIRA's quantitative, no-nonsense approach to analyzing markets.

OVERVIEW

Anyone who has observed global energy markets over the decades recognizes that even the soundest forecast is surrounded by a wide range of uncertainty. Projections are developed on the basis of a series of assumptions — on economic growth, resource availability, government policies, technology, and the behavior of key energy suppliers. PIRA has a track record of being better than the consensus in getting these assumptions right through solid, tireless analysis and a detailed knowledge of market data. Nevertheless, there are inherent uncertainties that even the best analysis cannot eliminate.

While uncertainties can't be eliminated, they can be identified, quantified and their impact on business plans assessed. The objective of PIRA's Scenario Planning Service (SPS) is to define and track these alternative outcomes in a way that makes them useful to our clients in testing their business strategies.

SPS can help clients answer the following questions:

- **What are the risks that prices and volumes could significantly differ from PIRA's Reference Case?**
- **How much different could they be?**
- **What probabilities should I assign to these alternatives?**
- **What early warning signs will indicate whether to put increasing emphasis on one of the alternative scenarios?**

Key Deliverables

February 2010 – The ***Annual Guidebook*** delivered to clients.
See pages 2 and 5.

June 2010 – **Client Roundtables** in Houston and London.
See page 3.

PIRA is not the first consultant to offer long-range oil and gas scenarios, but this service is different, taking advantage of PIRA's no-nonsense approach to market analysis. **SPS is:**

- **Quantitative**

  We do *not* focus on intricate storytelling, although our scenarios are grounded in realistic appraisals of political, economic and technological uncertainties. Instead, SPS focuses on and quantifies the parameters that are most important to you — namely, prices, supply/demand, and volumes — along with our assessment of probabilities.

- **Ongoing**
  Some companies develop one-off scenarios, present the results, and then move on. SPS is an ongoing retainer service — not a multi-client study — so that we can keep the scenarios evergreen, track the key assumptions behind each one, and let clients know if and when developments in energy markets change our views on outcomes and probabilities.

- **Customizable**
  Each client may have their own particular views or concerns over key assumptions. SPS allows subscribers to get a consistent view of the energy world, under their assumptions, using PIRA's proprietary models. We also work with clients to assist them in determining how best to incorporate the conclusions of the scenario work into their decision-making process.

WHAT ARE THE BENEFITS OF AN SPS RETAINER

Scenario Planning Service "Deliverables"

The Scenario Panning Service provides a fully consistent supplement to PIRA's Reference Case retainer services. Specifically, clients benefit from the following service components:

Annual Guidebook

- Comprehensive printed and online study that defines in extensive detail the assumptions behind PIRA's oil and gas Reference Cases, along with long-term alternative scenarios for global crude oil, as well as regional crude and product markets, and regional natural gas markets. Oil products include Jet kero, gasoline, gas oil/heating oil, and fuel oil. Emphasis is placed on the 2009-2025 time frame. **See details on page 5.**
- Data tables on prices and volumes associated with these scenarios, including coal prices in each of the principal scenarios.
- Identification of "signposts" that are regularly monitored by PIRA to determine whether assumptions are tracking the Reference Case or deviating toward scenario cases.

Quarterly Tracking Reports

- Defining of short-term scenarios surrounding PIRA's near-term crude oil and gas outlooks.
- Updated long-term outlook for WTI, Brent and Dubai crudes
- Long-term update of product prices (gasoline, distillate, jet, fuel oil) and crude spreads in USGC, Rotterdam and Singapore.
- Monitoring of previously identified "signposts," including:
  - Latest global oil and gas demand growth trends
  - Energy and environmental policy developments
  - OPEC production, capacity and strategy plans
  - Trends of FSU and other key non-OPEC oil producers
  - Progress on key natural gas pipelines and LNG projects
  - Domestic oil and gas production trends in the U.S., Europe, and Asia
  - Migration patterns of key gas-intensive manufacturing industries
  - Emerging demand and supply technologies (e.g. fuel cells, hybrids, GTL)
- Assessment of impact on scenario probabilities

Scenario Planning Service "Deliverables" (continued)

Current News and Analysis Bulletins

- Sent on an "as-events-dictate" basis, insightful assessments of specific events with the potential to alter long-term trends. Past news events that SPS has assessed include:
  - Prospects for a global gas cartel
  - Potential for Natural Gas as a Transportation Fuel
  - Trends in upfront capital costs of new energy projects
  - Trends in oil and gas price subsidization
  - Prospects for plug in hybrid technology and the role that China may play
  - Prospects for non-Opec production growth
  - The potential for diesel penetration in the U.S. market
  - The regional penetration of LNG in North America
  - Russia's dependence on oil and gas revenues and implications for pricing and production
  - The outlook for Alaskan gas development
  - Aging baby boomers and energy intensity
  - Role of petrochemicals as a driver for future oil demand
  - A simple model for projecting F&D costs
  - Russian support for the global gas market
    The "Inevitability" of Chinese oil demand growth?

Annual Roundtables (Houston and London)

- Clients receive two invitations to attend one of the annual roundtables, which provide an opportunity for attendees to:
  - Discuss scenarios directly with PIRA team
  - Dialogue over specific key concerns
  - Define additional scenarios of interest
  - Attend special in-depth presentations from senior PIRA staff on topical issues, such as:
    - World Oil — assessment of alternative outcomes on Iraq supply, China demand and non-conventional fuel supply
    - North American Gas — scenarios around Alaskan gas and LNG supply
    - Global LNG – prospects for supply, demand and pricing
    - Refining — assessment of new automobile technology/alternative fuels and impacts on overall demand and refining balances, alternative margin scenarios
    - Political Risk and Energy Policy — update on political developments around the world with the potential to impact oil and gas markets

Dr. Mark Schwartz: The Key "Deliverable"

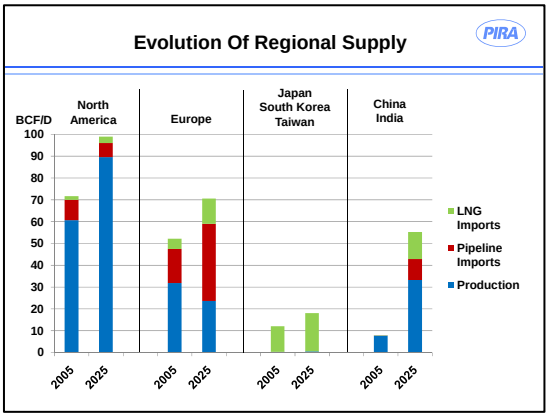
The most significant difference between other consultants' scenario presentations and SPS is in the second "S": *Service.* Not a one-off multi-client study, SPS is an ongoing, evergreen, and refined service. It keeps clients constantly — and instantly — in the know on events and trends that shift market outlooks and their probabilities.

Keeping SPS clients abreast of these developments is the Scenario Planning Group and its managing director, Mark Schwartz. Via phone and email access, roundtables, and custom scenario construction, clients can access Mark directly and benefit from his nearly three decades of experience as a renowned energy economist. See page 8 for more about Mark and his team.

Scenario Planning Service "Deliverables" (continued)

Global Gas Database

- This dynamic database captures long-term demand, supply, pipeline shipments and LNG imports and exports at a country and regional level, providing a comprehensive and balanced global picture of natural gas. The gas demand outlook uses PIRA's Global Energy Demand Model, which calculates the total energy requirements for each of the four primary energy consuming sectors and determines which fuels are likely to meet those requirements. The gas supply outlook draws inputs from PIRA's North American and European Natural Gas and Global LNG services.



Custom Scenario Constructions

- Clients are entitled to request PIRA to use in-house tools to construct two (2) specific scenarios per year, tailored to their own views on key variables such as price, economic growth, and supply availability. When requested, we provide guidance and recommendations regarding how best to incorporate the conclusions of the scenario work into their decision-making process.

Access to PIRA Staff

- As with all PIRA services, phone and email access to PIRA's Scenario Planning Group allows Clients to obtain timely analytical support, facilitating a more productive use of their time and maximizing the value of the written content delivered at the roundtables, via email and the Web. Clients can discuss defined scenarios or get feedback and guidance on concerns of their own.

PIRA Online

- All reports, data tables, and presentations associated with the SPS are available to clients on PIRA Online. As such, recent and archive material are easily searchable. Also available to SPS Clients on PIRA Online are PIRA's regularly updated macroeconomic data (currencies, U.S. economy and manufacturing, world economies and air travel) and a weekly report that tracks the performance of equity markets in countries and regions around the world.

FEES

The annual fee for the Scenario Planning Service retainer is US$21,000. Existing PIRA Global Oil, North American Natural Gas, or European Natural Gas clients pay US$14,000. Clients of Global Oil AND either of the Natural Gas retainers pay US$12,000.

The SPS *Annual Guidebook*

The foundation of the Scenario Panning Service is the *Annual Guidebook*, a comprehensive study that assesses the long-term outlook for oil and gas markets. It is followed thereafter by the SPS roundtables and the quarterly tracking reports.

The *Guidebook*'s first section documents PIRA's Reference Case view on long-term energy. It provides not only the quantitative outlook, but the assumptions and thought process that go behind it, including our views on the economy, energy and environmental policy, technology, and producer strategies.

The next sections critically examine the key assumptions that have the potential to fundamentally impact energy markets. It details those factors that could lead to an oil and gas price environment significantly *lower* than what we have put forward as our Reference Case and those that could drive the world into a much *higher* long-term price environment — while assessing the probability of each.

Based on that analysis, we define key "signposts" that are regularly monitored by PIRA to determine whether assumptions are tracking the Reference Case or deviating toward scenario cases. These signposts, coupled with the analysis in the earlier sections, provide a framework against which news and market developments can be assessed in the quarterly reports and current news and analysis bulletins.

The SPS *2009 Annual Guidebook* Outline

1) Introduction and Executive Summary

2) Economic Growth
- a) Analogies to the Current Downturn
  - i) The Great Depression
  - ii) The 1981-82 Recession
  - iii) Japan's Lost Decade
- b) Lower Growth Scenarios
  - i) Low Growth Case
  - ii) Depression Case
- c) Global Perspective
- d) Regional Outlooks
  - i) United States
  - ii) Canada
  - iii) Western Europe
  - iv) Japan
  - v) China
  - vi) India and Other South Asia
  - vii) Southeast Asia
  - viii) Russia and the FSU
  - ix) Latin America
  - x) Middle East
  - xi) Africa
  - xii) Eastern Europe
- e) Key Economic Growth Uncertainties
- f) Note on GDP Weighting

3) Energy and Environmental Policy
- a) Environmental and Safety Concerns
  - i) Climate Change
  - ii) Local Air Pollution
  - iii) Biofuels
  - iv) Safety
- b) Energy Security
- c) Fuel Price Subsidization

4) End-Use Energy Technology
- a) The Role of Capital Stock

5) Energy Demand Outlook
- a) Overview
- b) Global Energy Growth
- c) Demand by Energy Type
  - i) Primary Energy
  - ii) Energy-to-GDP Ratios
  - iii) Oil
  - iiiv) Gas
  - v) Coal
  - vi) Nuclear
  - vii) Total Renewables
  - viii) Wind/Solar/Other High Tech
- d) Electricity
- e) CO_2 Emissions
- f) Energy Demand Outlook: Supplemental Data

6) Global Oil Demand
- a) 2009 Outlook
- b) Regions
  - i) U.S.
  - ii) Canada
  - iii) Western Europe
  - iv) Eastern Europe
  - v) Japan
  - vi) China
  - vii) Southeast Asia
  - viii) India and Pakistan
  - ix) Latin America
  - x) Middle East
  - xi) Africa
  - xii) FSU
- c) Sectoral Trends
- d) Product Trends
  - i) Gasoline
  - ii) Distillate
  - iii) Fuel Oil
  - iv) Jet Fuel
  - v) Other
- c) Changing Shape of the Barrel

7) Global Oil Supply – Non-OPEC
- a) Non-OPEC Output Methodology
  - i) Resource Base
  - ii) Rate at Which New Resources are Brought on stream
  - iii) Decline Rate
  - iv) Project Delays
- b) Non-OPEC Total
- c) Regions
  - i) U.S.
  - ii) Canada
  - iii) Europe
  - iv) Asia
  - v) FSU
  - vi) Latin America
  - vii) Africa
  - viii) Middle East Non-OPEC
- d) Non-Conventional Fuels
  - i) Bitumen (other than Canada)
  - ii) GTL
  - iii) Shale Oil
  - iv) Biofuels
- e) Reference Case Summary
- f) Key Global Non-OPEC Supply Uncertainties

8) OPEC Behavior and Production
- a) OPEC
- b) OPEC in Total
  - i) Political Stability
  - ii) OPEC Cooperation
  - iii) Price Target
  - iv) OPEC Membership
  - v) Foreign Investment
  - vi) Capacity Addition
- c) Member Countries
  - i) Saudi Arabia
  - ii) Kuwait
  - iii) U.A.E.
  - iv) Qatar
  - v) Iran
  - vi) Iraq
  - vii) Nigeria
  - viii) Algeria
  - ix) Libya
  - x) Venezuela
  - xi) Angola
  - xii) Ecuador
- d) Disruption Risk
- e) Evolution of Market Share

9) Global Oil Supply/Demand Balance
- a) Global Refined Products Markets
  - i) Overview of Refined Products Markets
  - ii) Product Price Cracks and Refining Margins
  - iii) Implications for Margins
  - iv) Key Uncertainties for Refined Products Markets

10) North American Natural Gas
- a) Introduction
- b) Historical Pricing
- c) North American Natural Gas Demand
  - i) U.S. Demand Outlook
  - ii) Canada
  - iii) Mexico
  - iv) North American Demand Summary
- d) North American Gas Supply Outlook
  - i) The Gulf of Mexico – Onshore/Offshore
  - ii) Other Lower 48 and Non-Conventional
  - iii) Canadian Production
  - iv) Mexican Production
  - v) Alaska's North Slope
  - vi) North American LNG Imports
- e) Reference Case Outlook for North American Gas Prices
- f) Key North American Natural Gas Uncertainties

11) Natural Gas
- a) Outlook for European Natural Gas
  - i) Overview
  - ii) Western Europe Demand Outlook
  - iii) Long Term Demand Outlook Through 2025
  - iv) Natural Gas Supply
  - v) LNG Imports
- b) European Price Outlook

12) LNG Outlook for Asia
- a) Japan
  - i) Power Generation
  - ii) Pipeline Imports
  - iii) LNG Demand Outlook
- b) South Korea
  - i) City Gas Market
  - ii) Electric Power Market
- c) Taiwan
  - i)Electric Power Market
  - ii) Other Markets
- d) China
- e) India
- f) Other Markets
  - i) Philippines
  - ii) Thailand
  - iii) Singapore
  - iv) New Zealand
- g) Asian Demand Summary
- h) Supply Availability and Pricing
- i) Quick Overview of LNG for the Rest of the World

13) Global LNG Supply/Demand Balance
- a) LNG Supply/Demand Balance Summary
- b) The Supply Side
- c) The Demand Side
- d) LNG Pricing

14) International Thermal Coal Markets
- a) Recent Developments
- b) Reference Case Price Outlook
  - i) Short-Term Influences
  - ii) Long-Term Influences

14A) Coal Price Scenarios
- a) Alternative Coal Price Scenarios
  - i) Low Price Case
  - ii) High Price Case

15) Global Oil Scenarios
- a) Introduction
- b) Recent Developments with Long-Term Implications
- c) Global Oil: Reference Case (2009-2025)
- d) Global Oil: Reference Case Summary
- e) Global Oil: Low Price Scenario (2009-2025) – Long Economic Hangover (LEH)
- f) Global Oil: Low Price Summary (LEH)
- g) Global Oil: High Price Scenario (2009-2025) – Supply Constraints (SC)
- h) Global Oil: High Price Summary - Supply Constraints (SC)
- i) Global Oil: Deep Recession Scenario (2009-2012) – Depression Case (DC)
- j) Global Oil: Depression Case
- k) Summary and Probability Distribution

15A) Refined Product Scenario

16) Natural Gas Scenarios
- a) Introduction
- b) Recent Developments with Long-Term Implications
- c) Natural Gas – North America: Reference Case (2009-2025)
- d) Natural Gas – North America: Reference Case Summary
- e) Natural Gas – North America: Low Price Scenario (2009-2025)
- f) Natural Gas – North America: Low Price Summary – Long Economic Hangover (LEH)
- g) Natural Gas – North America: High Price Scenario (2009-2025)
- h) Natural Gas – North America: High Price Summary
- i) Natural Gas – North America: High Price Summary – Supply Constraints
- j) Natural Gas – North America: Depression Case (2009-2012)
- k) Natural Gas – North America: Thoughts on Gas Surplus Case
- l) Summary

17) Statistical Appendix

SPS: A CRITICAL SERVICE FOR LONG-TERM PLANNING

Investments in the energy industry tend to have long lead times and long payout periods. Success or failure often depends on conditions five, 10, or more years into the future. PIRA has always been recognized for providing a clear, quantitative best-estimate of where energy markets are headed, near and longer term. That approach will not change. However, we understand that many of our clients need to examine a range of plausible outcomes as part of their strategic planning processes. The past several years remind us that the range of uncertainty surrounding price is large. The consensus view can be wide of the mark. Testing against these alternative scenarios provides both an indication of the resiliency of strategies and an opportunity to develop up-front contingency plans in the event that conditions materially change.

Who Can Benefit from PIRA's Scenario Planning Service:

- **Oil and Gas Producers, Equipment Manufacturers, Drilling Companies, Shippers:** Firms in these industries have always been risk takers and cannot let uncertainty prevent them from undertaking the investments required to grow their business. Nevertheless, some projects are more resilient to a range of outcomes. Other projects can be phased or staged in a way to minimize vulnerability. For companies involved in any aspect of long lead-time investments, both the scenarios and the ability to track them can be an invaluable tool.

- **Electricity Generating Companies:** Will abundant natural gas be available at today's prices or will a combination of rapidly declining production and limits on LNG availability cause a price run-up? Considering the possibilities and consequences is critical to wise decision-making in the power industry. The Scenario Planning Group works closely with PIRA's Natural Gas, Electric Power and Emissions groups to define realistic scenarios with meaningful consequences for the industry.

- **Refiners and Marketers:** The downstream business will evolve differently under alternative scenarios for oil price, availability, government policy, and end-use technology. The SPS quarterly tracking reports and annual roundtables provide regular updates on developments in energy policies and automobile technology with the potential to influence longer-term trends.

- **Government Agencies (Energy, Environment, Finance, Commerce):** Lawmakers and executive agencies need to debate the consequences of policies under a range of possible energy futures. Finance and commerce ministries will find SPS useful as well, since variation in the price and volume of oil and gas can have significant revenue and balance-of-payments consequences for both exporting and importing nations.

- **Financial Institutions**: As banks are called upon to provide debt for new energy projects, it will be imperative to analyze the profitability of projects and investments under a range of reasonable scenarios particularly those that stress test project cash generation. SPS can provide the quantification they need for their analyses.

- **Commodity Investors**: There has been an expansion of interest in commodities, including oil and gas, as a long-term investment alternative to stocks and bonds. PIRA's assessment of long-term prospects for price can serve as useful guide in assessing the long-term attractiveness of energy commodities as a portfolio option.

- **Large Energy Consumers:** Choices have to be made on large energy-intensive capital equipment purchases by manufacturers, airlines, and vehicle fleet operators. Should I pay a premium for energy efficiency? Fuel-switching capability? Addressing these issues properly requires a realistic appraisal of the range of outcomes for fuel prices.

ABOUT PIRA ENERGY GROUP

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 the international oil, natural gas, electricity, and emissions markets. PIRA provides evaluation of key U.S. and international energy fundamentals and issues that impact the behavior and performance of the industry and its various markets and sectors. Currently, more than 500 entities across 60 countries 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.

The PIRA Scenario Planning Group

Mark A. Schwartz (President and Managing Director, Scenario Planning Group) oversees SPS. Dr. Schwartz was formerly Chief Economist of ExxonMobil Corporation where he was responsible for developing the company's long-range economic and energy outlook. Dr. Schwartz designed and managed the implementation of the energy modeling system and database that allowed ExxonMobil to develop their base-case global energy outlook as well as alternative cases to capture the impact of changes in price, economic growth, environmental policy and other critical assumptions. Prior to this position, Mark spent five years in Exxon's International Gas Marketing Company, where he developed the Asian gas supply/demand balance and led several multi-company studies of China's gas pipeline and LNG options. During his 25 years at Exxon he also had assignments in Upstream Planning, Treasurers, and Corporate Planning functions. He holds a PhD in economics from the University of Pennsylvania.

Richard (Rick) Joswick (Managing Director, Global Oil) develops PIRA's outlook for crude and products pricing, refinery margins, and inter-regional supply balances. He authors PIRA's monthly *European Oil Market Forecast* and participates in special projects. He joined PIRA in 2004 after a 20-year stint with ExxonMobil in supply logistics, planning, refining, and research. Most recently, he was responsible for Exxon's near-term oil market forecast. Prior to this position, he focused on trading and logistics, refining economics, and heavy oil upgrading and, as part of his work, developed information systems in these areas. Rick has MS and BS degrees from Rutgers University in chemical engineering.

Frederick W.A. (Bill) Fuller (Senior Director) has over 35 years of energy forecasting and analytical experience. During his 30-year tenure with Exxon International, Bill was the Advisor to Exxon's Industry Group, providing briefings to supply management, and analyzing and forecasting oil market trends. In sales and marketing, Bill negotiated oil prices on sales to Exxon affiliates, established posted prices in the Caribbean and Asia, and oversaw tanker operations. Bill holds a BS chemical engineering from Cornell University.

Peter Jaquette (Director, Global Oil Group) is the coordinator of the PLANNING FOR TOMORROW study, working closely with PIRA's Global Oil, Refining, Biofuels and Freight groups. He is a key contributor to PIRA's Scenario Planning Service, and is the coordinator of the annual PLANNING FOR TOMORROW study. Peter joined PIRA in 2007 with more than 25 years of experience in corporate strategic planning and economic consulting, including 14 years with ARCO and nine years with Weyerhaeuser, where he was involved in evaluating cellulosic ethanol and other energy projects. Peter has a B.A. in economics from Swarthmore College and an M.A. in economics from Stanford University.

Ira B. Joseph (Executive Director, International Gas) manages PIRA's European Natural Gas Service. Ira joined PIRA in 1999 after working as director of Business Development at SageMaker, Inc., an enterprise information portal that provides a platform for integrating internal and external energy content. Prior, Ira held positions at Energy Intelligence Group (EIG) for over a decade, as Senior Editor of *Petroleum Intelligence Weekly* and Editor-in-Chief of *World Gas Intelligence*. He has authored several books on crude oil marketing and natural gas, including versions of EIG's *International Crude Oil Market Handbook* and *World Gas Handbook.* Ira holds an MA in International Economics from Johns Hopkins School of Advanced International Studies

Ronald B. Gold (Senior Director, Emissions Group) is an international energy economist with broad experience in analyzing energy, economic, and environmental trends. Dr. Gold retired from Exxon Company International at the end of 1997, where he was Company Economist and Manager of the Energy Outlook Division. In that capacity, he supervised a team of economists in preparing international energy and economic outlooks and conducting special business-related studies. Earlier in his career, he worked for the US Treasury Dept., Office of Tax Analysis, and was also an assistant professor of economics at Ohio State University. Dr. Gold received his M.A. and Ph.D. in economics from Princeton University.

Michelle Patron (Senior Director, Political Risk) oversees PIRA's political risk coverage and has over a decade of experience analyzing international energy issues. Prior to joining PIRA in 2004, Michelle was a Fellow at the Council on Foreign Relations and worked as an international policy advisor at the U.S. DOE. She advised the U.S. Energy Secretary and other senior U.S. officials on relations with major energy producing and consuming countries including Venezuela, Mexico, Brazil, China, Nigeria and the European Union. In 2001, Michelle served as Energy Attaché for the U.S. Department of Energy at the U.S. Embassy in Beijing. Prior to DOE, she worked at the International Energy Agency, the White House, UNICEF and the Center for International Environmental Law. Michelle holds a BA from Columbia University and an MA from Johns Hopkins School of Advanced International Studies (SAIS).

Dan Klein (Director, International Coal) oversees PIRA's International Coal Retainer Service. He is responsible for the *International Thermal Coal Market Forecast* and *International Coal Markets Scorecard*, and he contributes to the *U.S. Coal Market Forecast*. Prior to directing the International Coal Service, Mr. Klein was a member of PIRA's North American Electricity team. He has a BA in economics from Calvin College.

Roman Kramarchuk (**Senior Director, Greenhouse Gas Emissions**) joined PIRA in 2005, coming from the U.S. EPA's Clean Air Markets Division, where he was extensively involved in the development of the CAIR and CAMR (Mercury) Rules and the BART Guidelines. His previous experience includes work with PA Consulting / PHB Hagler Bailly, where he evaluated strategies regarding power sector fuel choice, allowance purchases, and capital investments in pollution control equipment and advised on power plant development and acquisition, transmission expansion and asset valuation within various North American markets. He has a MPP from the Kennedy School of Government at Harvard and a BA in economics and BSE in system engineering from the University of Pennsylvania.

Clayton Vernon (Director of Modeling) directs PIRA's Energy Modeling, including maintaining, improving, and designing all of PIRA's major oil models, with an emphasis upon integrating our short-term and longer-term forecasts with PIRA's Global Demand Model. Prior to joining PIRA, Clayton worked for 10 years as an Epidemiologist at the Texas Medical Center in Houston, for 3 years at Enron, and for 2 years at Bank of America. Clayton has a B.S. in Mathematics and Physics from Rice University and a Ph.D. (ABD) in Econometrics from the University of Texas at Austin.

ACCEPTANCE FORM

We wish to become a client to PIRA Energy Group's **Scenario Planning Service,** and we understand and agree that:

- The fee for the subscription is:

Non-Retainer Client	Oil OR Gas* Retainer Client	Oil AND Gas* Retainer Client
US$21,000	US$14,000	US$12,000*

* Clients of either the North American Natural Gas or European Natural Gas retainer services.

Note:

- This annual retainer service is provided for the exclusive use of the subscribing company, which may distribute SPS material internally to a total of 10 people at one company site. Additional distribution rights may be obtained through a PIRA Site License. For licensing options, contact your PIRA sales representative.
- A subscription to SPS entitles client companies to reports, updates (special dispatches and analyses as developments warrant), and access to PIRA's Scenario Planning Group, as detailed in the "Deliverables" section of this prospectus.
- SPS contains no confidential technical information to the best knowledge of PIRA. However, except for information that is or becomes generally available to the public in printed publication, or is already in the possession of, or developed independently by, the subscriber, or is received by subscriber in good faith from a third party, any information in the service is for the sole and confidential use of the subscriber. Subscriber agrees to use reasonable efforts to protect the confidential nature of the information supplied to it as part of this service.

Company: _____

Name/Title: _____

Address: _____

_____

Phone/Fax: _____ **Fax:** _____

Email: _____

Total Fee: _____

Signature: _____

PLEASE MAIL, FAX, OR E-MAIL TO:

PIRA Energy Group
Attn.: Managing Director, Client Services
3 Park Avenue, 26th Floor
New York, NY 10016-5989
Phone: 212-686-6808, ext. 331; Fax: 212-686-6628
sales@pira.com