OPPORTUNITIES IN CHAOS

Interdependence-based Solutions for the Petroleum Industry of the 21st Century

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USAE 25th Annual Conference
September 21, 2005
Denver, Colorado

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The Scale of Maturity

- **1800’s**: Dependence
- **1960’s**: Independence
- **2000’s**: Interdependence

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The Factors

There are reasons for the rise...

- Imbalance between Demand and Supply
- The decline in the value of the US dollar
- Artificial restraints to prevent inflation impact over the years
- The rapid growth of Energy Funds of all sizes
- Political unrest in countries with the most supplies
- Lack of cooperation between Consumers & Suppliers
- Imbalanced regulations for protecting the environment
- Energy consumption habits of populations around the world
- The practices of IOCs/NOCs in developing new petroleum resources
The Factors

Imbalance between Demand and Supply

• Growth in demand significantly larger than expected
• Primary supply is declining
• Residual supply is limited
• Perceptions of Speculators
• Hoarding
The Factors

The Decline in the Value of the US Dollar

- High rate of decline in the value of the US$
  - Well over 20% decline (against major currencies)
- A barrel of oil is priced in terms of US$
  - The value it returns to its seller declines accordingly
- The purchase power of the exporting countries
  - Declines in line with the US$ decline
  - Requires remedial actions to remedy situation
- Balancing impact: those w/stronger currencies
  - Such as the European Union countries
  - But not the US
The Value of Pricing Currency

Decline in value of the $"$ Euro & Pounds Sterling

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The Factors

Limiting Inflation Impact Over the Years

• The price of crude was not allowed to grow in line with:
  • Natural economic inflation
  • The inflationary rise in the cost of:
    • Finding, developing and producing oil
    • Transporting and marketing
    • Manufacturing and distribution
• The price control practices (by consumers/producers)
  • were all artificially imposed on the market
The Factors

The Rapid Growth of Energy Funds of All Sizes

• Declining interest income from the debt side of investing
• Volatile equity markets creating limited opportunities
• Perceived structural changes in the petroleum markets that:
  • Among the financial investment houses
  • would create a long term imbalance between supply and demand
  • would ensure the continued growth well beyond current highs
  • would last for a long period of time
• The need for new hedging platforms by other industries
• The resultant Energy Funds transact enormous speculation
The Factors

Political Unrest in Countries with the Most Supplies

• In major supplier countries
  • Nigeria, Venezuela, Iraq
  • Saudi Arabia, Russia, Iran, etc.
• Some real and some only perceived
  • Either way, it creates anxiety
  • Either way, there is a risk associated with the anxiety
• The nature of the unrest, real and perceived, is long term
• Supplies at risk (real/perceived) are hard to replace from anywhere else
The Factors

Lack of Cooperation between Consumers & Suppliers

- Consumer countries taxation of petroleum products
- Consumption habits of importing countries
- Regulations that advocates everything against oil
- The promotion of misaligned political agendas
- Mutual trust is in short supply and declining
- Each side is committed to misaligned solutions
The Factors

Imbalanced Regulations for Protecting the Environment

• Regulations developed by environmentalists in a vacuum
• Little, if any, input from:
  • economists
  • energy specialists
  • industrialists
• Regulations that adversely impact the petroleum/energy industry
• Regulations that do not effectively protect the environment
• Regulations that are politically inspired rather than objectively developed
• Regulations that impede needed investment in the petroleum industry
The Factors

World Populations’ Energy Consumption Habits

• Inefficient transportation vehicles and commuting habits
  • Larger and heavier vehicles are increasing
  • Fuel efficiency of these vehicles is marginal
  • Higher frequency of short trips
  • Longer distances to commute to and from work
• New increments of demand are from energy intensive economies
The Factors

IOCs and NOCs practices to develop new petroleum resources

• May be efficient, but not effective
• Extremely conservative in pursuit of opportunities
• Risk averse attitude is dominant in an industry that thrives on risk tolerance
• Facilities and competencies are not properly aligned with the rapidly growing heavier crude supplier (extra heavy < API 27)
• Practices of holding investments in the past decades are delaying the arrival of new crude to the market now
The Price of a Barrel of Crude Oil

- Supply & Demand
- Pricing Currency Value
- Speculators
- Other Components

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### The Factors

<table>
<thead>
<tr>
<th>Year</th>
<th>1974</th>
<th>1987</th>
<th>2005</th>
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<tbody>
<tr>
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<td>$14.00</td>
<td>$26.40</td>
<td>$63.53</td>
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<tr>
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<td>$18.00</td>
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On inflationary basis alone, at 5% per year, WTI should be at US$63.53 per barrel, without accounting for any other element of price variations.
How long is it going to stay high?

• The root causes include many of a long term nature
• All scientific evidence leads to the belief that demand is rapidly rising, while the right supplies are rapidly declining
• To change the new realities takes a long time at best
• The new floor for crude oil prices is here to stay
• No one has ever dealt with a market of perceived shortages, only speculated ones – Lack of knowledge creates anxieties
• Anxieties contribute to higher prices
What Signs of Structural Changes?

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2001 2002 2003 2004 2005 2006

$ 20’S 30’S 40’S 50’S

Upper Limit

Lower Limit

Actual Price

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Supply & Demand
Realities and Perceptions

Barrels

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Speculators

• The Energy Funds
  • Growing in popularity as investment vehicles
  • Significant players in the market with significant influence

• The Other Major Funds
  • Utilize the petroleum market as a hedging tool
  • Play the debt/equity market and the commodities markets
  • Create value as capital migrates throughout the markets

• The State of Other Investment Vehicles
  • Other debt/equity markets volatility
  • Comparison of returns favors the Energy Funds

• The Loop of Variations
The Loop of Variations

World Economies Prosper

Energy Funds

The Price of Crude Variation Impact

Other Major Funds

World Economies Decline

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The Implications

• The markets are rapidly approaching a state of chaos
• IOC’s access to oil and gas reserves is rapidly decreasing
• NOC’s access to market infrastructure throughout the value chain is rapidly decreasing
• No single country or block of countries is capable of avoiding this chaos on their own
• No single company or alliance of companies is capable of avoiding this chaos on their own
• Surviving the chaos is possible with the right methods and tools
The Opportunities

• Reduction/elimination of petroleum market volatility
• Enhanced security of supplies and market access
• Increased revenues for exporting countries
• Increased net earnings for IOC’s
• Integration throughout the value chain
• Creative mergers and acquisitions
• Creative Strategic Alliance Design
• Monetization of Extra Heavy Crude (API 17-25 degrees)
• Monetization of Non-conventional Crude (less than API 17 degrees)
• Development and monetization of other alternative energy sources
• Opportunities to eliminate the energy market perceptions that contribute to volatility through transparency and cooperation among the entire pool of stakeholders
• Opportunities to improve the energy industry image among the general public consumers
A Suggested Approach

Nations
- Consuming
- Exporting

Industries
- Others
- Petroleum

Companies
- IOC’s
- NOC’s

Investors
- Individuals
- Institutional

Consumers

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