

# Energy Futures Markets and Hedge Funds

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*UtiliPoint International Inc.*



*How Knowledge Compels Results*

# A Roller Coaster Ride

- Just missed the last oil bonanza!
- Oil prices have been very low, other than during a few crisis events, for the last 20 years
- Most oil industry forecasters still have price projections and models that fail to recognize the new fundamentals
- Only the ‘speculators’ in Q4 got it right
- Why?

# Why Is Energy Attractive Now?

- Increased demand in all commodity markets both global and/or regional
- Sustained lack of investment in infrastructure across the entire industry
- Increasing emphasis on environmental issues
- High levels of merchant debt coming due
- Undervalued assets on the block
- Undervalued sector in general

# Why is Energy Attractive to Hedge Funds Now?

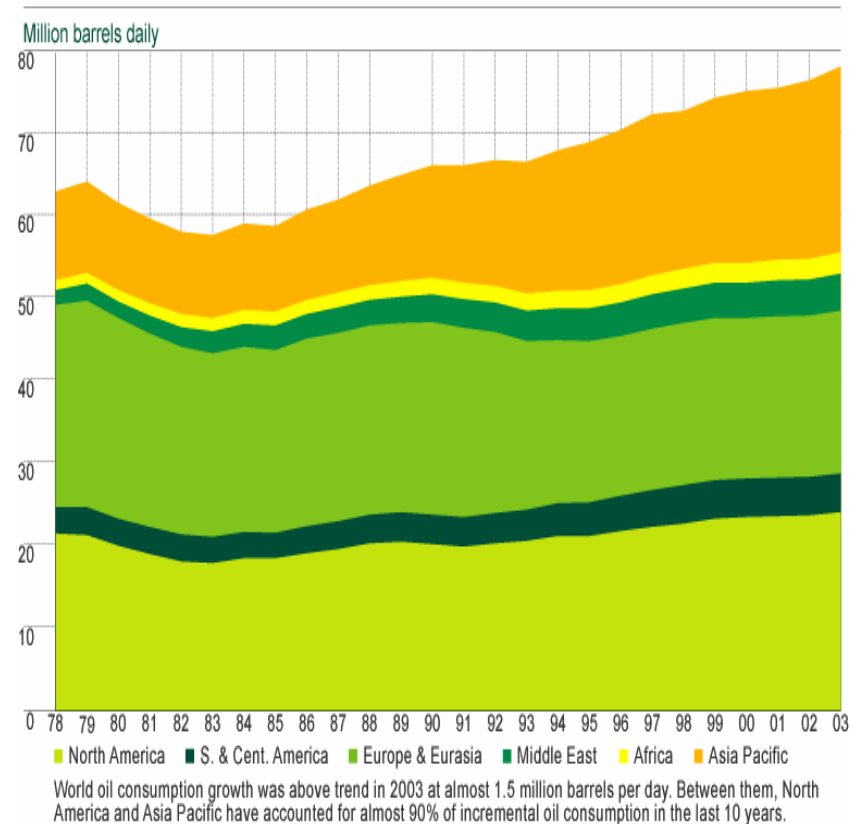
- Hedge fund universe is about 8100 funds and \$1 trillion AUM
- 2004 – Average return of around 8%
- 2004 – Record amounts of capital coming in to alternative investment and hedge funds in particular
- Energy markets volatile
- Energy undervalued and entering a new supply/demand paradigm
- Energy is a new focus for hedge funds that is ripe for better returns than average
- There was a ready supply of ex-energy traders and expertise available for hire.

# Energy: An Attractive Investment



# Crude Oil Demand

- Demand from Asia, in particular increased, dramatically
  - ▲ China and India known to be stockpiling oil and securing supply
  - ▲ China estimated 20% growth in oil demand in 2004 to 1.1million b/d
  - ▲ GDP growth of 9.1% in Q1 05 and oil demand expected to be 354 million tons for 05.
- US demand robust with a record 3.5% increase in demand in Q2 2004 and now consumes more than 20m b/d of crude oil – around 25% of supply

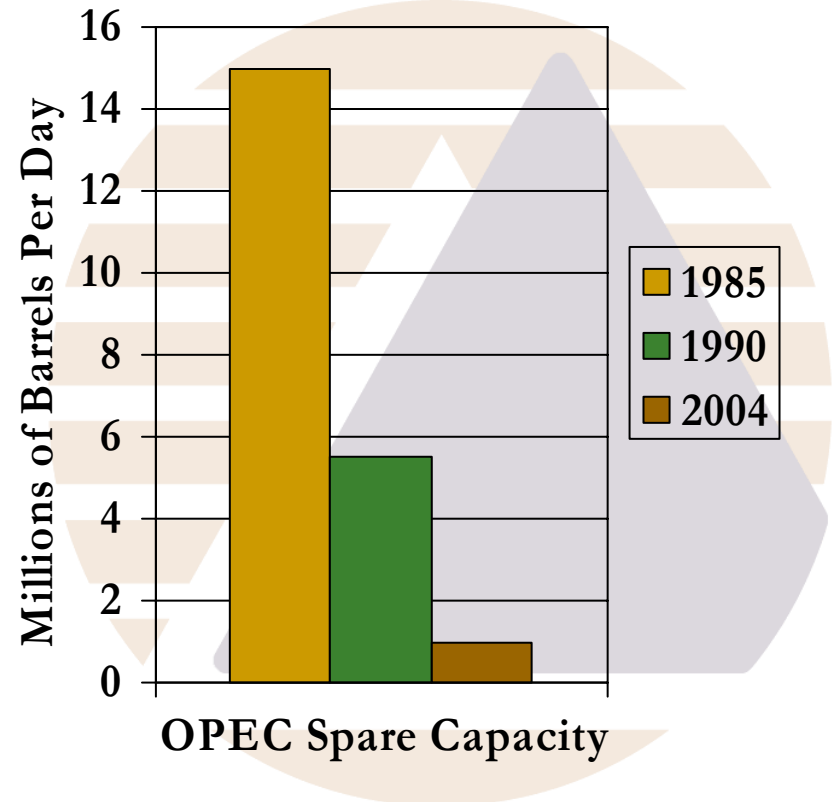


Source: BP Statistical Report 2003

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# Crude Oil Supply

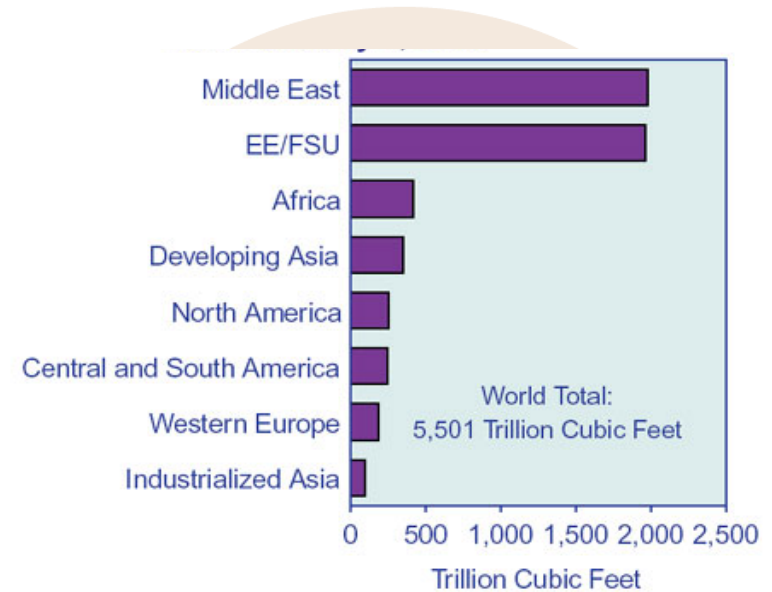
- OPEC capacity has declined from 34 million b/d to around 30 million b/d
- Only Saudi Arabia really has any spare capacity estimated as 1.6 million b/d (and there are increasing numbers of questions being asked about that)
- Oil majors not investing in exploration and some have overstated their reserves
- Light sweet crude production declining, heavy sour crude production increasing
  - ▲ New fields and production are often heavy, sour crudes
- IEA estimates that some \$2,199 billion would be needed for investment in E&P between now and 2030 if expected oil demand was to be met
- Deutsche Bank estimates that major E&P companies have cut their exploration budgets by about 27%
- Potential for critical supply disruption via terrorism, industrial disputes etc. in Russia, Nigeria, Venezuela, Iraq and else where



Source: Rice University/Economist

# Natural Gas - World Supply

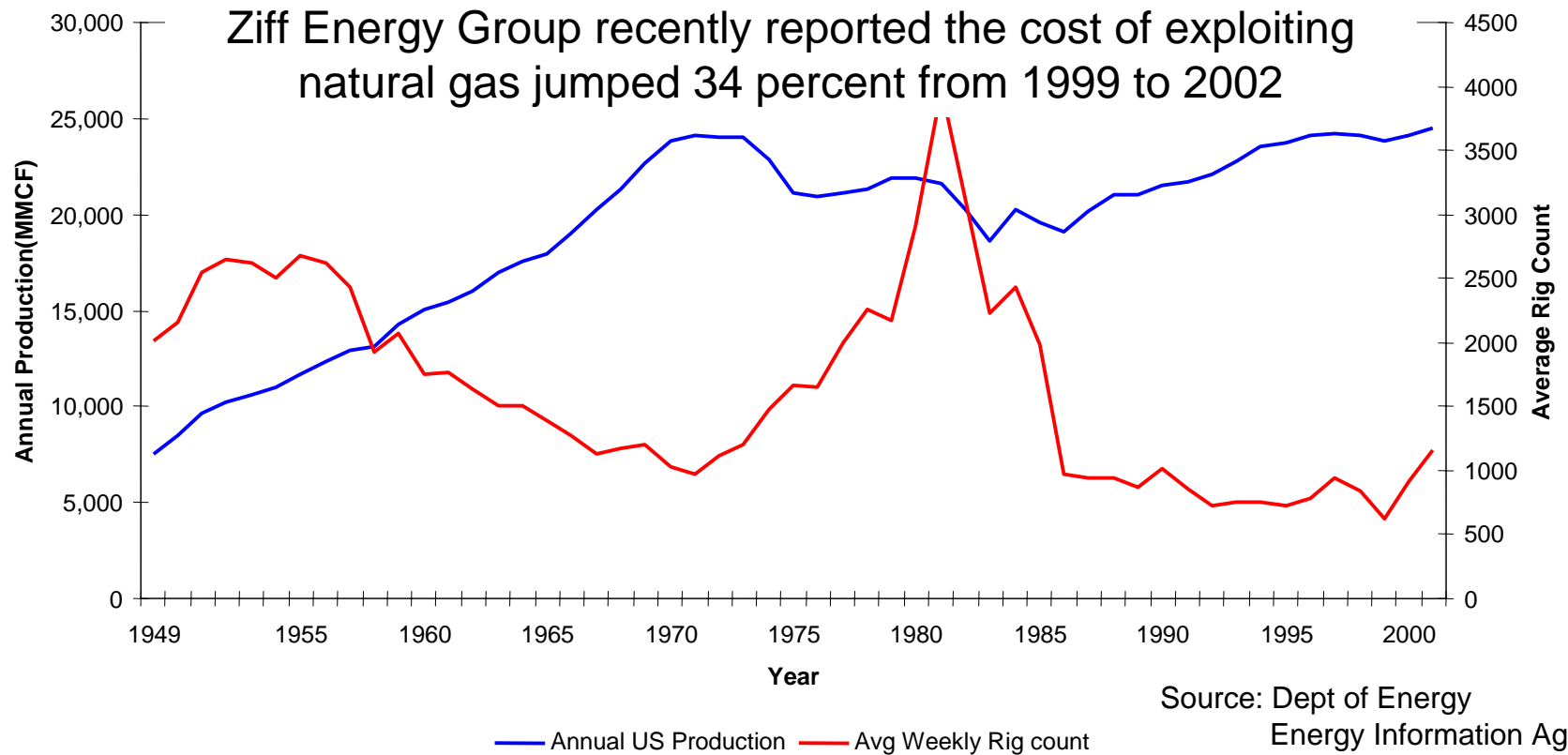
- Russia and Iran account for about 45 percent of the world's natural gas reserves
- Essentially regional markets due to transportation issues
  - ▲ LNG potential
  - ▲ Pipeline Projects
- Lack of investment in Exploration activity as per oil in recent years
- Storage critical and can impact price – recent EIA erroneous storage report caused greater than \$1 jump in NG prices
- US NG price symptomatic of new supply/demand paradigm



Source: "Worldwide Look at Reserves and Production," *Oil & Gas Journal*, Vol. 100, No. 52 (December 23, 2002), pp. 114-115.



# Gas Production vs. Rig Count

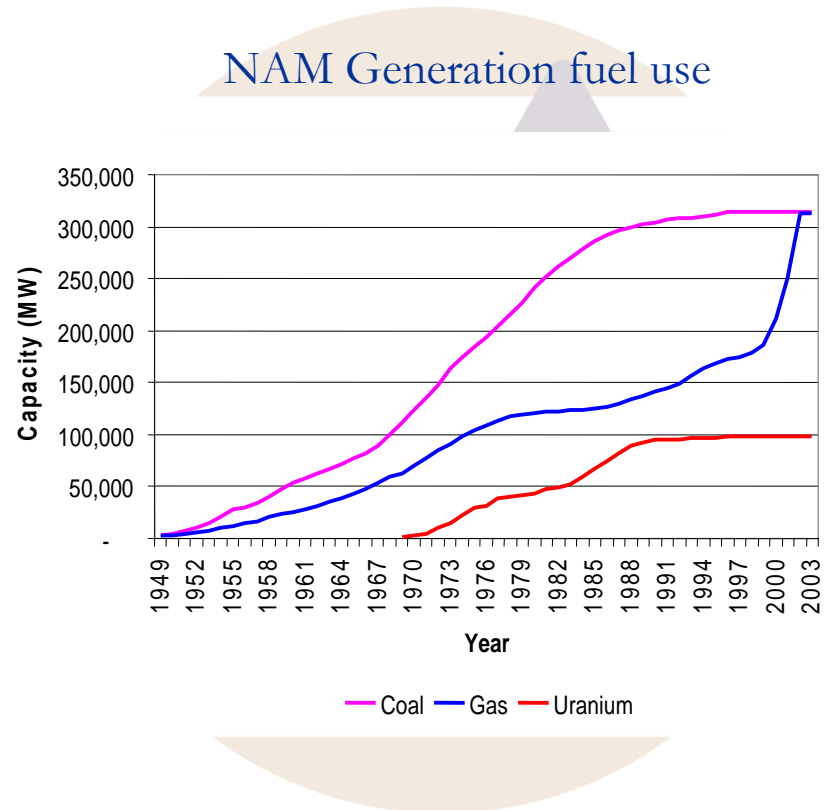


## 30% per year depletion rate!

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# Natural Gas Demand

- Surge of gas-fired generation projects in US in recent years increased demand considerably
- In regional markets – see supply/demand tightness resulting in price volatility.



# Electric Power

- Not storable
- Regional markets – transmission constraints
- Environmental issues even with hydro power
  - ▲ ‘Green’ power increasingly popular and fetching a premium
- Regional supply/demand constraints
- US peak demand exceed 760,000 MW and could increase more than 50% in next 20 years

# The Coming “Train Wreck”

- New electric generation additions = Gas
- Coal and Nuclear produce over 70% of electricity currently
- By 2010, 77% of coal units >30 years old and <300MW
- New Coal takes 5 to 7 years to complete

# Renewables

- Renewable programs on the increase
- Many utilities have implemented green pricing programs
- States with portfolio requirements
  - ▲ AZ, CA, CT, HI, IL, IA, ME, MA, MN, NV, NJ, NM, PA, TX, WI
  - ▲ CA: September 12, 2002. Established the most aggressive renewable portfolio standard in the country by requiring utilities to purchase 20 percent of their electricity from renewable sources by 2017.



# Coal To The Rescue?

- US has 10 times more BTU's in the form of coal than oil and gas combined
- Over 80 coal plants representing over 40 GW of power under consideration
- Coal prices rising as NG prices rise
- Takes years to construct plant once permitted
- Increasing emission regulations



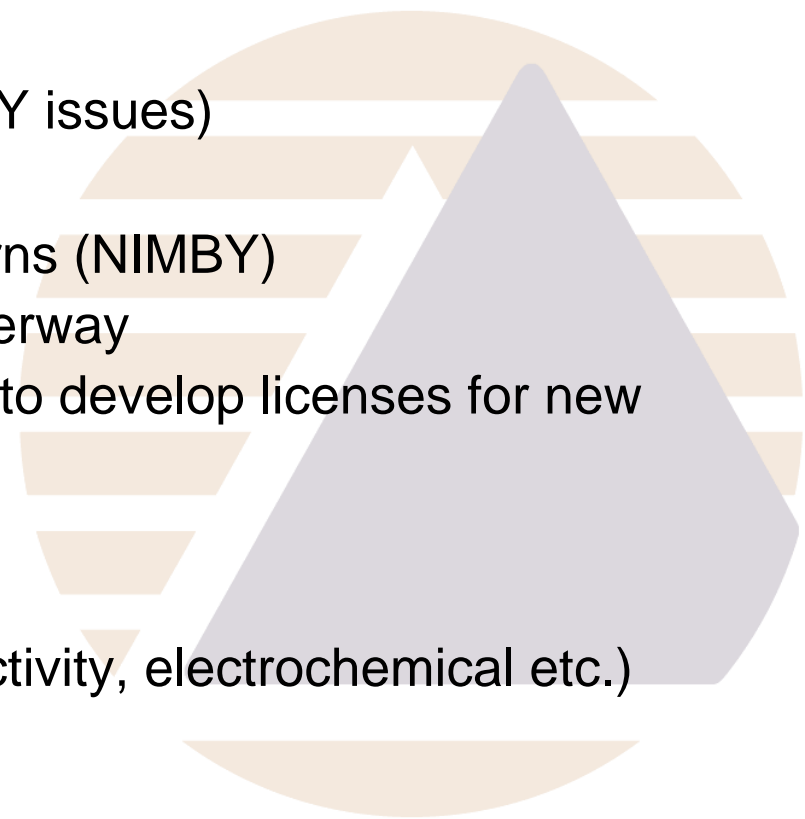
# Hydrogen To The Rescue?

- Made from Water, Methane, Natural Gas
- Net Energy Loss
- Therefore effectively a battery
- Decades away



# Other Energy Sources?

- Wind
  - ▲ Clean power source
  - ▲ Still environmental issues (NIMBY issues)
- Nuclear
  - ▲ Environmental and safety concerns (NIMBY)
  - ▲ Re-start of TVA nuclear unit underway
  - ▲ Utility consortiums formed in US to develop licenses for new reactors
  - ▲ Last order - 1973
- Energy Storage
  - ▲ Area of investment (superconductivity, electrochemical etc.)
- Fuel Cells
  - ▲ Years away from reality



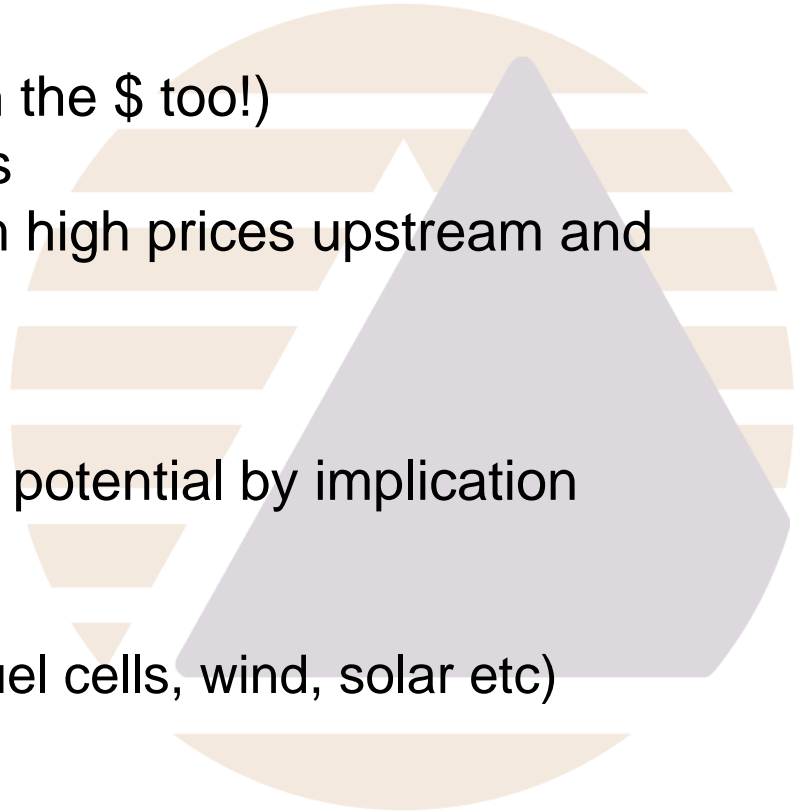


# Refined Products

- Demand for gasoline, heating oil etc high in the US but seasonal
- Markets for gasoline regional due to formulation specifications
- Little investment in infrastructure such as new refineries over last two decades
- China and Asia automobile increasing popularity and economic certainty.

# Implications

- Energy in all its varieties is 'hot'
- Increased price volatility
- Increasing energy prices (factor in the \$ too!)
- Race to develop new technologies
- Energy companies benefiting from high prices upstream and downstream
  - ▲ Shell record profits
  - ▲ Profits high across sector
- Anything peripheral to energy has potential by implication
  - ▲ Emissions trading
  - ▲ Renewables
  - ▲ New technology development (fuel cells, wind, solar etc)
  - ▲ Water
  - ▲ Uranium etc....



# Energy Commodities: Post-Enron Vacuum Filled



# Energy Trading Post Enron

- Except for oil, more short-term oriented
- More exchange traded or exchange cleared
- Destruction of many market makers in North America & Europe
- Entrance of Wall Street & City of London investment banks
- **New:** entrance of hedge funds now focused on commodity trading

# Energy Trading Post Enron

- Loss primarily confined to gas and power trading
- Loss of market maker and risk taker who controlled 25 to 30% of the market
- Set back energy hedging for two years & now re-establishing itself
- Entrance of the financial houses now is greater than imagined i.e. **bringing more risk capital**

# Unprecedented Price Volatilities & Opportunities

- Sustained bull markets across the energy complex for oil, gas, power and coal
- Volatility attracts traders and speculators
- North American natural gas second most attractive market
- Other plays: distressed assets, coal trading, renewable energy and carbon trading
- New liquidity providers

# Why Energy Is a Unique Commodity

- Over-the-Counter Markets
  - ▲ Flexibility & customization
  - ▲ No regulation, more risk (hedge funds)
  - ▲ Longer-term in oil
- Exchange-traded futures contracts
  - ▲ Transparency
  - ▲ Clearing & elimination of counterparty risk
  - ▲ Performance
  - ▲ Government oversight



# The Energy Futures Markets: Attractive to Hedge Funds

- More liquidity in daily trading & open interest
- More violent intraday price moves
- The most volatility commodities ever created
- Need natural longs and shorts
- Need speculators and market makers
- Long way from market maturation: \$2 trillion commodity markets vs. \$4 trillion physical market



# Emerging Markets

- **Coal:** price volatility, change in purchasing procedures, in North America it's a a freight (rail) contract
- **Emissions:** SO<sub>2</sub> & NO<sub>x</sub> is \$6 billion market today, dominated by OTC brokers, the hockey stick in 2005 for GHG & RECS
- **Weather:** need to replicate deals coupled with loss of North American market makers, \$15.8 billion market with 10,000 deals

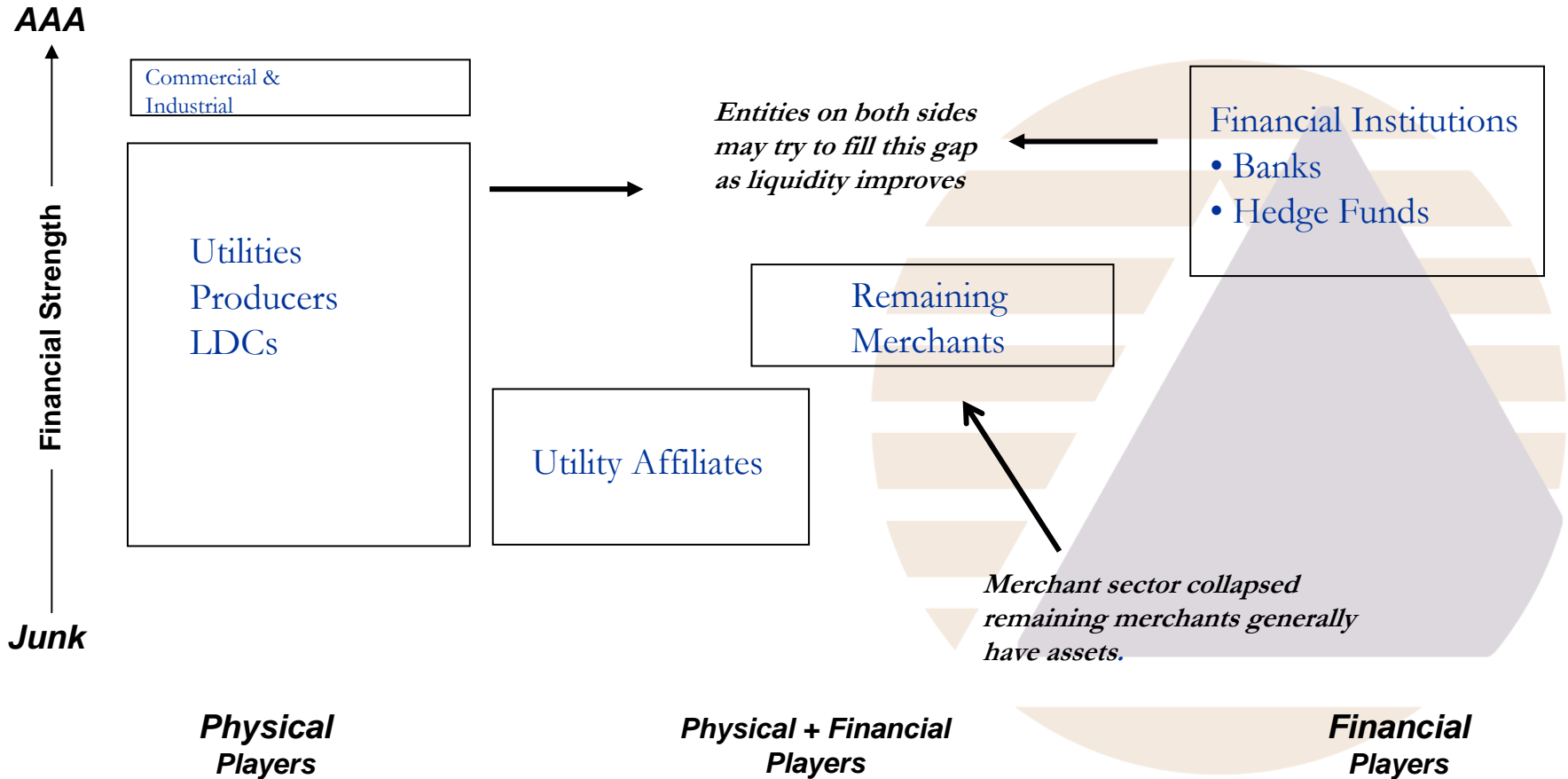
# Where We're Going

- Ramping Up: More to Come
  - ▲ Germany deregulation, Singapore Tax Holiday, China trading energy futures since April
- Energy Markets require knowledge base, trading expertise and risk capital
- More trading, more liquidity, more information
- Potential for tremendous gains (Morgan Stanley & Goldman) and tremendous losses
- Energy Trading is zero sum game

# Industry Re-Structuring

- Collapse of Merchant sector
  - ▲ All forms of debt
    - \$65 billion in loans coming due 2010 (S&P)
    - Total debt burden of \$125 billion
    - 2003 >\$10 billion in refinancings
  - ▲ Distressed Assets (generation facilities, pipelines, gathering systems, gas plants etc.)
    - Sales to raise much needed capital
    - Re-emergence of the Master Limited Partnership

# Industry Structural Changes



# Undervalued Sector?

- Record profits in Oils
  - ▲ Oil companies have been using profits to buy back shares as opposed to E&P activities and returning profits to shareholders
    - BP returning \$18 billion to shareholder (versus \$9.7 annual Exploration budget)
    - ExxonMobil returning \$6.4 billion in 2004 versus \$3.6 billion Capex
  - ▲ \$1 rise in oil price equates to 6% increase in earnings for majors (Dundee University)
  - ▲ Easiest way to new reserves – buy them in the form of smaller independents
- Underlying fundamentals in Utilities remain strong after re-structuring
  - ▲ Lehman – IPP holdings increased by over \$4 billion in 2004
  - ▲ Morgan Stanley – positive correlation between utility stock performance and M&A
  - ▲ Morgan Stanley – utility stocks outperformed S&P 500 in 2004
- View that energy stocks may be undervalued
- But issues including environmental, cost of compliance with new regulations and general investment environment

# Enter the Speculators

- Hedge funds
  - ▲ Overall performance disappointing in 2004
  - ▲ Increase in investment monies at record levels
  - ▲ Seeking 'alternative asset classes'
  - ▲ Energy identified as offering potential for greater returns across all sectors and strategies
- Investment Banks
  - ▲ Renewed energy emphasis across all sectors
  - ▲ Buying oil reserves in the ground
    - Morgan Stanley – 24 mm bbls for \$775 million from Anadarko over next 4 years
    - MS and Deutsche Bank – purchased equity production in North Sea from 2007 to 2010

# What Hedge Funds Bring?

- Positioned to catch the upswing in financial energy & environmental trading
- Opportunities to clear OTC energy contracts
- Opportunities to develop more equity derivative & index contracts for energy equity traders
- They bring liquidity, risk culture and trading acumen
- It's just the beginning

# Specialist Funds

- Identified over 330 energy hedge funds
  - About 30% are energy specialist funds
  - Energy and energy-related activity on the increase
    - Observing about 2-6 new funds in formation per month
    - Many new funds are based in Europe – 2004 was largely NAM but Q4 saw an uptick in European fund formation in UK and Switzerland in particular
- What do these funds look like?



# Energy Focused Funds

- **Commodity Traders**
  - ▲ Both macro and specialist funds
  - ▲ Macro funds switching portfolio towards greater emphasis on energy and energy-related commodities (e.g. Emissions, Uranium)
- **Physical traders**
  - ▲ Often smaller funds created by ex-energy traders
  - ▲ Power, gas focus
- **Equities & Securities**
  - ▲ Funds switching to heavier exposure to energy sector
  - ▲ New specialist funds launching targeted at energy
  - ▲ Appear to be taking a longer term view towards holdings and investments
- **Debt**
  - ▲ Hedge Funds now largest providers of debt financing to old merchants
- **Distressed assets**
  - ▲ Some funds engaged in Master Limited Partnership activity to acquire energy industry assets
  - ▲ Significant increase in MLP activity last 12-months in midstream
- **Arbitrage and other plays**

# Examples

- **European Oil Fund**

- ▲ Oil-related equities
- ▲ Oil derivatives trading
- ▲ Spread Trading

- **Positioning**

- ▲ Lack of investment
- ▲ Emerging economies continue to rely on oil
- ▲ Oil producers wish to see sustained higher prices before making investments
- ▲ Security and speculation factors at play

- **3 Staff but allied with an investment bank**

- **End of march 2005 – 16.89% return since inception (6 months)**

- **US Energy Fund**

- ▲ Mispriced or distressed priced securities
- ▲ Common stock, straight and convertible debt, MLP's
- ▲ Long and short alpha exposure

- **Positioning**

- ▲ Energy stocks and bond prices reflect knowledge gaps – E&P capital spending set to rise
- ▲ Assets and earnings are mis-priced
- ▲ Higher wellhead revenues

- **2 staff**

- **Performance data not known**

# Commodity Traders

- Estimate about 100 hedge funds now trading energy commodities (up from 10 last year)
  - ▲ Mainly oil futures, secondarily natural gas, electric power, weather, green and water.
  - ▲ Perhaps \$20-40 billion in AUM
  - ▲ Many are trend followers – ‘black box’ – follow one another
  - ▲ Many are ex-energy traders
  - ▲ Also – renewed interest in the form of investment bank (prop. Trading desks)
  - ▲ Blamed in some quarters for rising commodity prices and volatilities
    - However, evidence accumulating that hedge funds may reduce price volatility

# Our Views on Impact

- Price movements largely related to shift in market fundamentals **not** speculators
  - ▲ Speculators follow trends and may accentuate those trends
  - ▲ Funds are 'in' and 'out' increasing volumes
- Impacts
  - ▲ Volatility?
  - ▲ More risk capital, risk acumen and more liquidity
  - ▲ More 'market views'
  - ▲ Overall positive for the industry

# Who is Investing

- Traditionally private wealthy investors
- But Energy is now viewed as an alternative asset class for investment by
  - ▲ Pension Funds
  - ▲ Institutional Investors (college endowment funds, local government etc.)
- Investment monies flooding into hedge funds generally

# Typical Fund Investment Requirements

- A minimum investment (often \$100,000+ but some funds ask for less)
- Management fees (typically 1-2%)
- Annual performance fee (typically 20%)

About 175 funds > \$1 billion in assets  
But most funds much smaller, particularly  
Specialist funds

# Transparency

- Estimates suggest that about 1 in 8 start up funds fails before start of year 2
  - ▲ 40% of these failures due to fraud
  - ▲ 30% due to operational risk
- Transparency into fund valuation and NAV calculations by investors, banks and other parties (administrators etc.)
- Demonstration of adequate risk controls, policies and procedures
  - ▲ Potentially, demonstration of energy expertise and energy-specific methods and tools
- Has an impact on technology requirements

# Summary

- Energy is a new alternative 'asset class' for hedge funds
- Energy is entering a new paradigm in terms of pricing, structure and players.

*The next 5 years will bring a  
Boom time like we have never seen  
Before*

Comments by John Olsen of 2003 Houston Energy Partners  
To Pipeline Opportunities Conference in Houston January 2005



# About UtiliPoint International

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