

ON POINT

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GORDON ENERGY
SOLUTIONS

Candid, Forward-Looking Analysis of the Oil & Gas Industry

IN THE NEWS

Oil Sands in Canada –

National Energy Board sees oil sand output tripling by 2015, raises supply cost estimate of SCO from C\$26/bbl in 2004 to C\$39/bbl today.

Shell acquires BlackRock Ventures. Canadian Oil Sands Trust bid for Canada Southern – describes a strategic acquisition to acquire natural gas reserves as a hedge against the damage to oil sand economics of rising natural gas prices.

But ... Athabasca Oil Sands Project expansion costs are revised upward another 50%. Total/Enerplus Resources' Joslyn mining and upgrader project could be delayed up to 3 years.

Russia –

Gazprom's monopoly over natural gas exports reaffirmed. Minority foreign participation limits pass. Sinopec acquires Udmurtneft from TNP-BP and sells 51% on to Rosneft

Gulf of Mexico Lease Sale –

Western Sale this month will test the market's expectations.

LNG or Piped Gas in North America –

Barriers to entry of LNG, especially on the US east coast, may shift the competitive balance of power.

ConocoPhillips exercises an option to acquire a 25% interest in the \$4.4 billion Rockies Express Pipeline. Chesapeake wins 18,000 acres in Barnett at \$181 signature bonus.

Louisiana and Alabama governors reject "open-rack" vaporization projects. Rhode Island bans LNG tanker flow through state waters to proposed Weaver's Cove LNG terminal in Massachusetts.

Multiple events in the past weeks confirm that three central issues confront management as it attempts to cope with the current phase of the oil and gas cycles: Access, Cost, and Commercial Security.

Rising Demand, Restricted Supply

Public policy decisions in Venezuela, Bolivia, Ecuador and Russia have combined to (1) erode the economic value of existing asset positions and (2) severely restrict oil company access to the additional investment opportunities that were once anticipated.

Venezuelan and Russian policy changes are well beyond tax and royalty rate increases. Venezuela combines uncompensated increases in Pdvsa's Orinoco equity interests to 60% with a call for doubling Orinoco output by 2012 using high cost steam injection technology. Also, Venezuela plans a less than credible gas pipeline alternative that could delay or abort Chevron's previously expected LNG export project using upwards of 7 tcf of Plataforma Deltana gas. Russia, in turn, has reaffirmed its insistence on minority participation of non-Russian companies and Gazprom's monopoly over gas exports including liquid forms of gas.

One key result is that industry capital is being "herded" into alternative outlets and competition for access is intensifying. This and the pro-cyclical spending habits of companies in a cyclical expansion are having a critically important impact on cost.

Will this cause adverse public policy changes in other key oil and gas producing countries? Of course. The value of oil and gas assets are far above what most negotiators could have anticipated just a few years ago. Moreover, relatively few fiscal systems are capable of responding automatically to such large changes in value. One may note, for example, Algeria's call for

a windfall profits tax and a return to majority interests by Sonatrach.

The important questions are more specific:

- which governments will respond with pragmatic shifts in policy and which will over-react, killing the economics of legacy asset positions and prospective projects?
- What are the critical factors that will differentiate between governments that respond reasonably and those that will over-react?
- Which companies are most at risk as a result and what are they likely to be forced to do?

Entry Costs Respond

In addition to these policy changes, companies will openly bid up other key costs in areas of investment opportunity including signature bonuses, royalties and work obligations.

The effects on entry costs will be most spectacular in the acquisition and divestiture markets (A&D).

RepsolYPF's recently announced US\$2.145 billion acquisition of BP's share of the deepwater Gulf of Mexico Shenzi project is one indicator of the competitive pressures building in the industry.

Compare this deal to two others in the Gulf: (1) Statoil's April 2005 \$2 billion purchase of EnCana's assets, including Tahiti and multiple other possible projects and prospects and (2) Hydro's September 2005 acquisition of Spinnaker for \$2.45 billion.

The Shenzi project development was just recently sanctioned. Therefore, in making this acquisition RepsolYPF also is taking on its 28% share of the \$4.4 billion estimated cost of developing the Southern Flank. *Continued on P.3*

Thus far, in 2006, Gordon Energy Solutions has published four major client studies: Share Price Drivers in the Oil & Gas Industry, Winning Competitive Advantage, Cost Mitigation Strategies, and Cost Mitigation Strategy Peer Analysis. Taken together, these offer the most comprehensive analysis of the industry cycle and its ramifications available today.

We have also prepared multiple client-specified Scouting Reports. These are focused, forward-looking screens of oil and gas companies and their assets prepared with the most recent data available at the time of the client request. In addition, we contributed an essay on the future prospects and roles of the international oil companies for the May issue of the Oxford Energy Forum and are participating in an ongoing Baker Institute study of the national oil companies.

Continuing Focus: The three central issues of access, cost and commercial security are so important to our client's future that they will be followed and discussed in each issue of On Point.

North American policy issues are creating important barriers to entry of LNG. These will profoundly impact the likely success or failure of alternative strategies. In particular, the value of North American natural gas assets will change as these barriers impact the gas markets.

Next month: On Point will present selected results from a major natural gas modeling project being undertaken as a fifth client study. These results will include comparative economics of key plays and will identify key competitors and their natural gas programs. The client study also includes a detailed economic analysis of the Cheasapeake lease of DFW Barnett Shale acreage.

Coming Client Study: In addition to the natural gas client study, we are also undertaking a new client study entitled Growth and Performance Prospects of the Global Oil and Gas Companies. This study will present highly detailed capital and operational forecasts and performance comparisons for the six leading global competitors: ExxonMobil, BP, Shell, Chevron, ConocoPhillips and Total.

The topics of our client studies are defined by areas of interest and need as expressed to us by our clients. We encourage your comments and ideas so that our work continues to be timely and of clear value to you in your business.

For more information on how to purchase a client study or become a GES client, please contact us using the information provided below.

CONTACTS

Gordon Energy Solutions is an energy consulting firm specializing in competitor analysis, strategic decisions, political risk analysis, and global issues concerning the international, integrated oil & gas industry. We anticipate future opportunities and challenges confronting our clients and assist in exploiting those opportunities.

By integrating the corporate and financial dimensions of strategy and performance with detailed project level analytics, we maintain a unique approach to your business. GES provides value to our clients through our forward-looking, critical analysis and unique perspective.

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For additional information concerning our most recent work or to find out more about our company, please visit <http://www.gordonenergysolutions.com>.

Reserve estimates range from 350 to 400 mmboe for the Southern Flank development with an additional 100 mmboe potential Southern Flank reserves due to completion of shallower oil-bearing zones and water injection. RepsolYPF's estimated cost (including development costs to be incurred) per boe of reserves will range from \$34.46 to \$30.15 in the 350 to 400 mmboe case. In the event that additional Southern Flank development work proves up the additional 100 mmboe, the cost will drop to \$26.80. These are very high costs per boe by any standard.

RepsolYPF's willingness to take on these costs is heavily influenced by factors outside the GoM that are specific to the company's other assets. This brings us to our second point: the sources of rising competitive pressures in plays such as the Gulf of Mexico include a wide range of international forces at work. RepsolYPF's tolerance of the very high per barrel costs in the Shenzi acquisition is a measure of the damage that has been done to their reserve base by events in Bolivia and other parts of Latin America.

Capital Cost Inflation

Numerous recent stories highlight the impact of cost inflation pressures. In Canada, Western Oil Sands announced that the cost of the 100 Mb/d expansion project at Athabasca Oil Sands Project (AOSP) may be revised upward, again, by a factor of as much as 50%.

This is after the August 2005 increase in estimated cost from C\$4 billion to C\$7.3 billion.

The threat of demand-pull cost inflation goes beyond capital costs. Just as important are three other key economic drivers: operating costs, project lead times, and license acquisition costs and government take.

Operating Cost

An interesting insight into opex inflation in the oil sand sector is the cost of natural gas consumed by the oil sand projects. An important example is the Canadian Oil Sands Trust bid to acquire Canada Southern Petroleum. The deal is explicitly described by Canadian Oil Sands as being a

"...strategic acquisition ... to secure a large, long-life natural gas resource to reduce the risk of significant future natural gas price increase impacts on ... Syncrude oil sands production."

Canadian Oil Sands CEO was also quoted as saying that "... we are acquiring ... equivalent to about 25 years of our natural gas consumption at Syncrude."

This concern over natural gas cost may seem odd as North American natural gas prices are down sharply from prior peaks. However, if oil sands production is to triple as the NEB has projected, gas consumption is projected to rise to 2.1 bcf/d in 2015 from roughly 750 mmcf/d in 2005. The fact that this increase is slightly more than the planned sales gas supply capability of the Mackenzie Delta gas pipeline project certainly should give oil sands players reason for reflection.

The importance of Western Canada's natural gas outlook to future oil sand output goes further than just the price of natural gas. In-Situ producers also face a real short-fall in gas condensate, the conventional source of diluent to transport bitumen.

Project Delays

In its second quarter report, Enerplus Resources announced that the planned startup of the Joslyn North Mine mining and upgrading project is likely to be delayed from 2010/11 to 2013. The report went on to state that "Given current industry pressures from a significant number of competing projects, timing issues are expected to be on-going."

A similar story has emerged in Papua New Guinea's gas export project to Australia. First, Oil Search announced that sanction of the upstream portion of the project will be delayed until the second half of 2006. Downstream, Australian Gas Light (AGL), is in a 50/50 partnership with Petronas to build a 3,800 km pipeline from Papua New Guinea to markets in Queensland. An earlier cost estimate of A\$3 billion has been increased to A\$3.5 billion to A\$4 billion.

The Gulf of Mexico (GoM) lease sales will continue to be important, tangible barometers of the pressures in the industry. Western Sale 200 will be held August 16.

This year the Gulf is experiencing the first of what will be several strong lease expiration echoes associated with very extensive deepwater acreage building in the last half of the 1990's. Sale 198 in the Central Gulf earlier this year captured \$581 million in high

bids. This is a level of capital committed to the Gulf that has not been seen since the sales in 1998.

Figure 1 shows the acreage available in Sale 200 by western Gulf area and by lease term. The ten year lease term is associated with deep and ultra-deep water blocks. The echo of the prior boom in licensing can clearly be seen in the dominant role of the four key deepwater areas in the west: East Breaks, Alaminos Canyon, Keathley Canyon and Garden Banks.

Faced with the critical issues of access, cost and commercial security, and the string of news this year, will the industry begin a new round of intense bidding competition in the Gulf?

Results of Sale 200 will be an important barometer to watch later this month. However, it should be remembered that interest in the western Gulf is typically less than in the central region: fewer bidders, lower bids, more gas focused.

There are a number of key factors, beyond the impact of higher oil and natural gas prices on the value of prospective reserves in the Gulf, that suggest possible heavy competition.

First, a number of leading players all but withdrew from the bidding after sales in 1997 and 1998. BP and Chevron, once dominating players, have shown significant signs of renewed bidding interest. By contrast, ExxonMobil has been virtually absent from sales since Sale 168 in 1997 and has shown no evidence of a return to date.

Second, Hess and Kerr-McGee, both aggressive bidders, have been consistent players in the western sales. Indeed, bidding by Hess has become, if anything, more aggressive in recent years. While Anadarko has removed Kerr-McGee from the competition by virtue of its acquisition, we suspect Anadarko will retain the same strong bidding program.

Third, a number of relatively new players are likely to be looking for opportunities to build on recent large acquisitions. Norsk Hydro, Petrobras and RepsolYPF are cases in point.

Finally, a round of very important deepwater Gulf of Mexico production startups has been underway since 2003 and will continue this year and into next.

These startups involve multiple world-class oil and gas discoveries. Examples include Constitution and Ticonderoga, the Independence Hub, and the anchor fields for the Mardi Gras infrastructure project: Atlantis, Mad Dog, Holstein, the Na Kika group of fields and Thunder Horse. Neptune, Tahiti and Shenzi follow. These production startups are significant drivers of competition in future Gulf sales for several reasons.

As these projects come on-line or near completion they will make the Gulf a key driver of future oil and gas output at a number of key companies including BP, BHP, Anadarko, Chevron, and Hess. This will be made all the more important by the problems of access and commercial security arising elsewhere in the world.

These factors plus very high decline rates typical of Gulf operations will make production replacement an imperative. These issues will inevitably be major factors in the thinking of these companies as they plan their bidding strategies this year and next.

Finally, infrastructure created as these projects come on-line will enhance the commercial potential of opportunities in and around its path.

Figure 2 shows the per acre cost of each of the top 5 bids placed in the central and western sales beginning in 1997 (Sales 166 and 168, respectively). The value of the leading blocks has increased very substantially in recent central sales. Sale 196 in the western gulf seems to suggest that this bid escalation is potentially being repeated there as well.

There are many reasons why acreage costs in the two gulf regions will differ including some that have to do with differences in prospects in the two regions. However, there are also reasons to suspect that values will move more or less in tandem. These macro-economic factors, such as oil and natural gas prices, drilling costs, or the supply of acreage available elsewhere, affect all asset values. Because these macro-economic factors affect all assets, they will have a similar impact on competition in both regions. As a result, and because the central sales precede the western each year, central sale results are a generally useful leading indicators of the competitive pressures in the western sales. The results shown here suggest strong competition is likely.

The recent announcement by Chesapeake that it won the rights to Barnett Shale acreage at DFW airport is another signal of strong upward pressures on land acquisition costs. The company paid \$181 million for the 18,000 acres, i.e., slightly more than \$10,000 per acre. As can be seen from Figure 2, this is a full third higher

Figure 1: Acreage Offered in Western GoM Sale 200
by Region and Lease Term

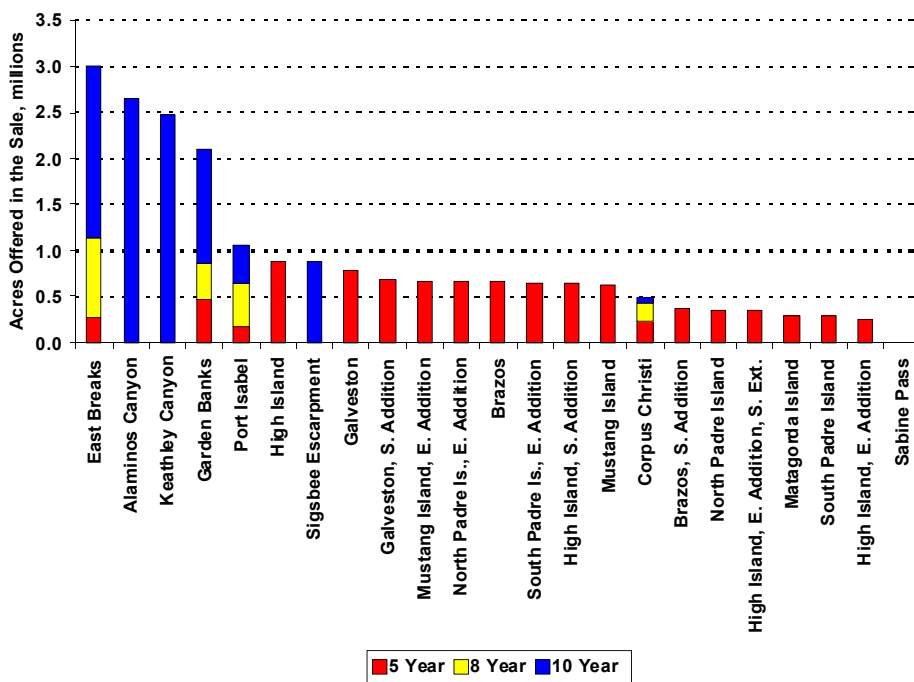
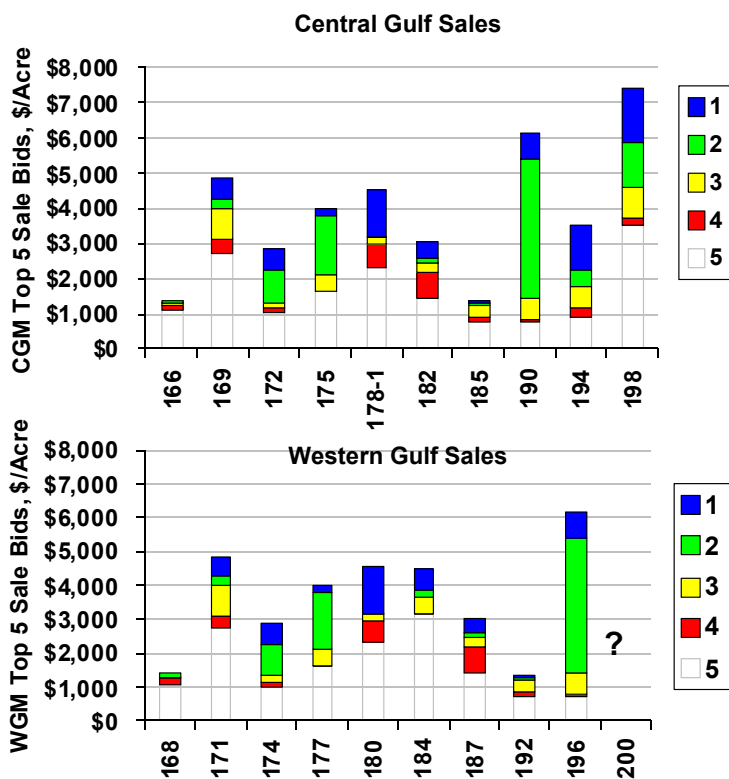


Figure 2: Top 5 Bids Per Acre in Gulf of Mexico Lease Sales



Note: Bid 1 is the block with the highest winning bid of the sale and is shown by the height of the column. The top of the green shaded bar is the second highest bid and so on.

OUR PERSPECTIVE

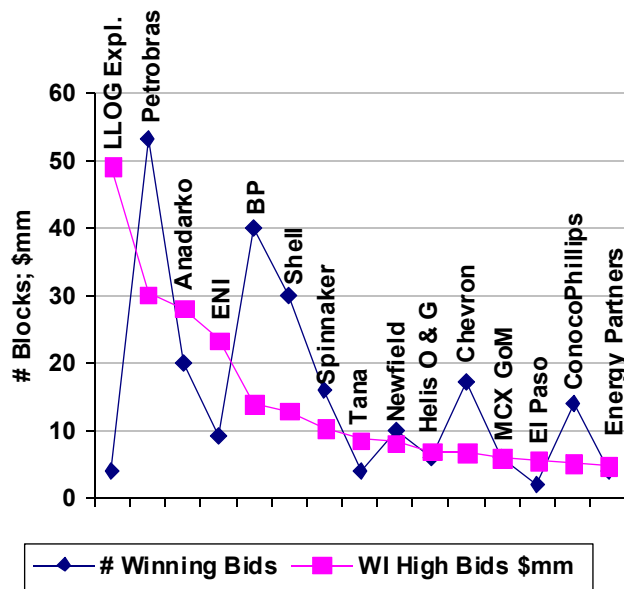


than the per acre bids paid for central gulf acreage in Sale 198. The per acre cost of land in the Barnett Shale play is all the more noteworthy as Chesapeake also is paying a 25% royalty -- twice the rate payable on deepwater acreage in the Gulf of Mexico and 50% higher than the rate on shallow water acreage. A detailed analysis of the Chesapeake deal will be presented in a client study currently underway.

As shown in Figure 3, the leading players in the sale are likely to be diverse and can include more than a few companies that are in the same peer group as Chesapeake. Two important emergent trends should be noted. First, a number of the large global competitors have returned to the bidding in recent sales. Second, there are multiple non-US based companies that are being severely pressured by international events.

The leading players and the focus of their bidding can be the shallow water as well as the deep.

Figure 3: Leading Bidders in the Last Western Sale
Sorted by WI Capital Exposed in the Winning Bids



Sale 196

LOOKING FORWARD

Starting from the basic premise that earnings and earnings expectations matter to share prices, the situation in the oil and gas industry has two critical impacts on the future.

First, rising costs, shrinking access and questions about commercial security in countries that are key global suppliers go straight to the heart of earnings expectations.

As costs inflate, investors are likely to downgrade future earnings estimates. Arguably, worries over cost inflation and public policy risks are at the heart of the low earnings multiples we are seeing for many companies.

Are the low earnings multiples warranted? Our suspicion is that investors are most likely under-estimating the potential value of oil and gas company shares. This will be especially true if prices drop as they did in the North American natural gas market or stagnate for an extended period of time.

Cost inflation is a fact. It is here and it is measurable as we show in the following section, Cost Watch. The possibility of near to medium-term price declines is just that and nothing more -- a risk of some unknown likelihood.

The irony of the situation clarifies the second key conclusion. Specifically, cost inflation, policy limits on industry investment and longer and more uncertain lead times on key oil and gas projects imply that prices are much more likely to rise than fall.

The current state of the three critical factors define a set of supply-side market fundamentals that are bullish for future oil and gas prices.

Tubular Steel Products Price

Tubular steel prices flattened out in the second quarter of 2006. This comes after prices reported by US Steel were up 26% in the first quarter of 2006 relative to the first quarter 2005 and up by 56% relative to the 2004 average.

After rising almost 19% in 2004 and almost 72% in 2005, iron ore prices this year are set to rise by another 19%. BHP Billiton, Rio Tinto and Companhia Vale do Rio Doce have announced a number of agreements with steel manufacturers on this year's price for iron ore. These three companies account for a reported 75% of iron ore exports.

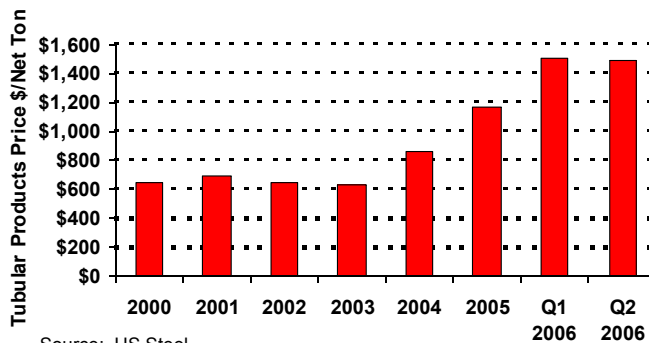
Reports indicate that the increase in ore prices will be passed on in the form of higher steel prices.

May Producer Price Indices

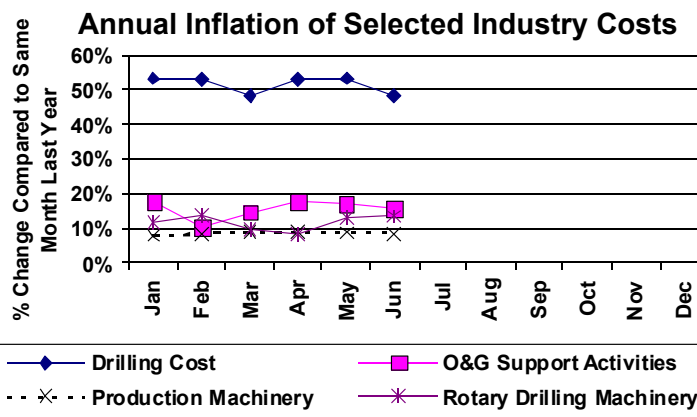
Key US industry costs continued their pattern of the first 5 months.

While June drilling costs are estimated to have fallen slightly compared to May, June costs are up by 50% compared to the same month in 2005.

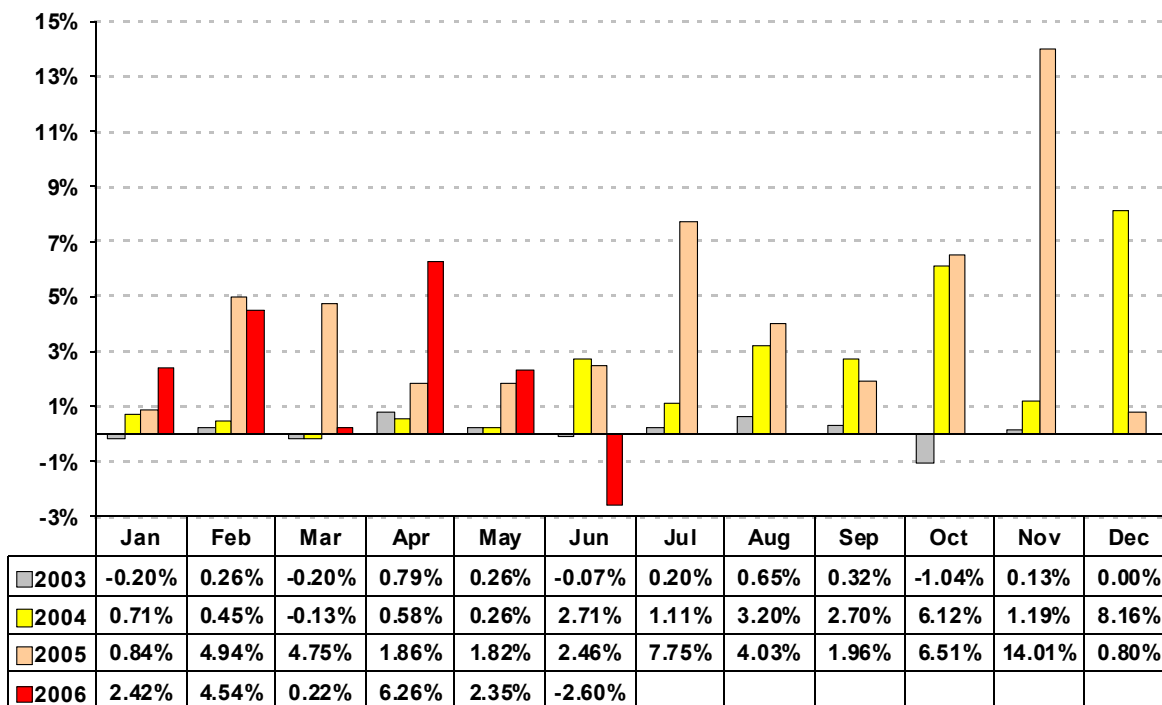
Other costs including support activities and selected machinery and equipment are up by 10 to 20%.



Source: US Steel



US Producer Price Index: Monthly Percentage Change in the Cost of Drilling Oil & Gas Wells



Year over Year Percentage Change

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2005	27.2%	31.7%	36.5%	37.8%	39.4%	39.2%	45.8%	46.6%	45.9%	46.3%	59.1%	51.7%
2006	53.3%	52.9%	48.4%	52.8%	53.3%	48.3%						

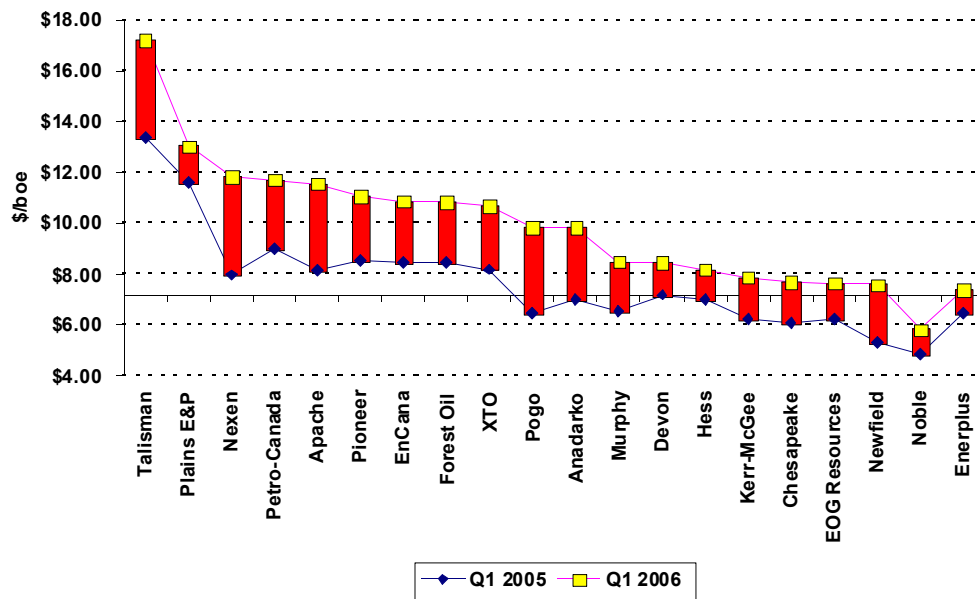
COST WATCH, OPEX



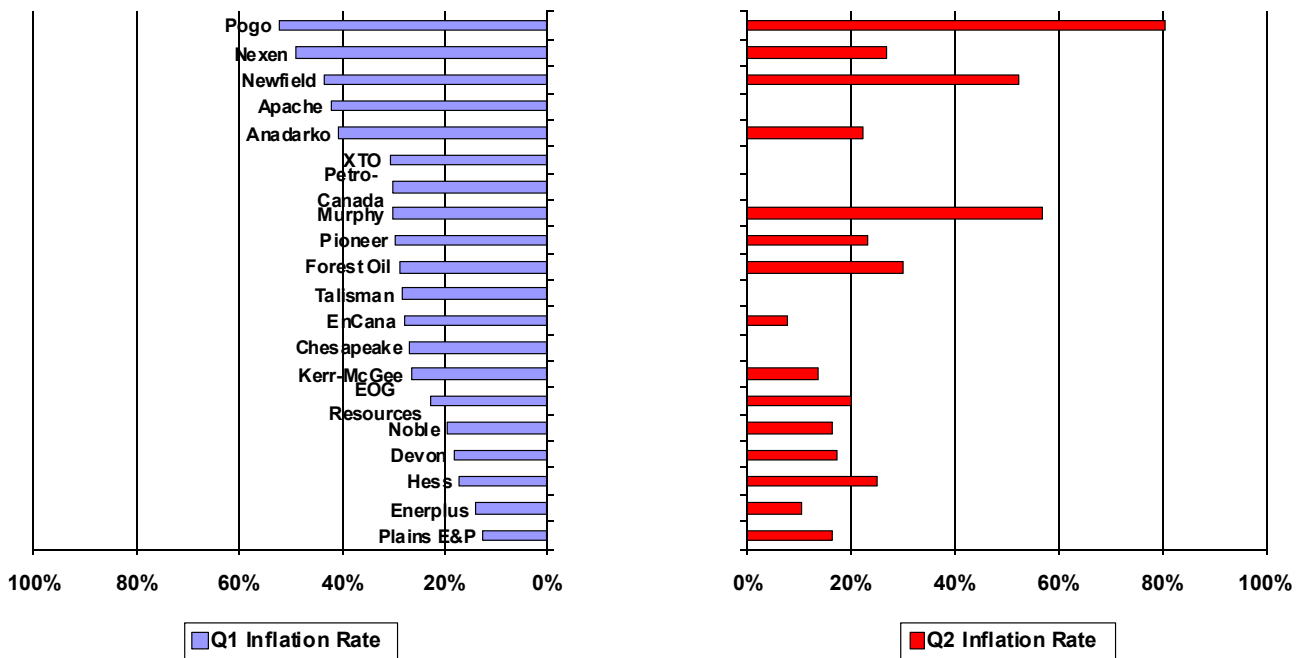
Second quarter reporting is still incomplete at this time. However, on balance, the worldwide average of unit operating costs reported by a cross-section of oil and gas companies continued to increase in the second quarter of 2006 compared to the second quarter in 2005. First quarter 2005 and 2006 opex per boe produced is shown in the chart immediately below. The comparative quarterly inflation rates of unit opex are provided in the side by side panel of charts at the bottom of this page.

Costs are up very substantially in 2006 compared to the same quarter last year. In fact, the median percentage increase in cash operating costs reported by a group of 19 oil and gas companies was 28% in the first quarter of 2006. Tracking this measure of the inflation rate from quarter to quarter is an important measure of whether the inflationary pressures are intensifying or receding. Based on data reported thus far for the second quarter, the 2006 unit opex inflation rate appears to be falling slightly from a median of 28.7% in the first quarter to a preliminary, incomplete estimate of 21.1% in the second quarter. These data will continue to be followed and updated in future issues.

First Quarter Upstream Opex \$/boe



Quarterly Year over Year Operating Cost Inflation Rate



*Anadarko's takeover of Kerr-McGee and Western Gas in late June illustrates a process that we warned our clients of in early April with the release of **Share Price Drivers in the Oil & Gas Industry**. The following materials are excerpted from that study.*

The easy money to be made by owning shares in oil and gas companies may have already been made but, for a number of reasons the ride is not over yet. Investors have bid up share prices of the oil companies and of the service industries at remarkable rates. With these strong shareholder returns comes a clear demand on management to match or beat the new and higher profit expectations from internal operations or, failing this, to make very large distributions of these inventory profits at the inflated share prices.

Share price behavior in the past three years is ... explained by oil price escalation, movements in the broad market indices, and investor speculation driven by hopes of coming acquisitions.

There are remarkably few examples of cases where superior management strategy or upper quartile performance measured by historic benchmarks have deflected share prices from the path determined by these external factors. In the few cases where internal events or strategies have had an effect, these effects are generally negative. Shell, Pioneer, and Kerr-McGee are recent examples . . .

Cost inflation will have a number of key impacts on share price performance...

Companies vary significantly ... in the degree of volatility that their shares are likely to display if oil and gas price expectations erode. Even at the current high price, if oil remains stagnant while costs escalate (and/or if North American natural gas prices fall substantially) look for several key results to follow:

- Strong pressures to reduce oil and gas company weightings in investment portfolios will emerge
- The effects of these adjustments will not be uniform any more than rising oil prices had a uniform effect on all shares
- The companies that are most seriously hurt by this re-adjustment of investor portfolios will also be the most vulnerable to takeovers.

The industry cycle's recurrent nature is rooted in the character of the industry itself. Two special results follow:

- Markets will consistently misjudge earnings prospects in the industry – bubbles are an inevitable result and bubbles inevitably burst
- Errors in expectations spill over into operations (investment, resource allocation, and costs) and pro-cyclical investment programs will emerge as a key factor affecting costs and risks.

Cost inflation amplifies the cyclical swings in earnings ...

Because the cost structure of the industry will tend to mirror the oil and gas price cycle but with a lag, cyclical fluctuations in earnings prospects will be amplified.

Governments contribute to this process as they raise taxes and limit company access to resource opportunities. Venezuela, Bolivia and Russia are three extreme examples of this process

Pro-cyclical investment responses will destroy earnings at many companies before this cycle is done...

Higher oil and gas prices and investor expectations of the industry raise a number of strategic issues. These strategic issues are a unique blend of financial and operational factors.

From an operational perspective, strategy is in flux. Often, the underlying premises of prior strategy have been invalidated. At the same time that strategy is in flux, prior choices have left many companies in a weak and poorly prepared state.

Two previously accepted strategic premises now in doubt merit specific mention here.

The first invalidated premise is the notion that oil and gas reserves, particularly undeveloped reserves, must be cut to very low levels relative to current production.

This once popular excuse among investors and analysts for minimal investment and maximum depletion was predicated on a weak analogy between inventories in the manufacturing or retail sectors and reserves of oil and gas.

The contrast between the previously accepted premise and the current pop

management verbiage in the industry is striking. One now hears companies emphasizing their long-life stable production base with extensive phased drilling opportunities. Moreover, we find many companies undertaking large, costly acquisitions to achieve their goals.

A second premise that lost its shine is that North American upstream operations are a declining industry and that the cash flows from this declining segment must be reinvested internationally if a company is to grow and succeed. ... The real issue is the long-term role of North American operations in future profitability. This encompasses midstream and integrated asset strategies as well as upstream. The role of North American natural gas is also being redefined and LNG is an integral part of this issue.

Several key acquirer's decisions have been driven by the current strategic flux--Shell, Kerr-McGee, and Pioneer are earlier examples with ConocoPhillips and Anadarko joining the move to adapt to the new realities.

Goals are in flux as well. Volumetric growth is back as a strategic theme. Concern for cost control is often voiced, but the resignation to rising costs in management presentations is clear.

The rapid run-up in industry share prices, current flat to bearish price expectations, and the threat of rising costs will be key factors shaping share price performance.

Do share repurchase programs increase share prices? The client study examines the evidence ... Share appreciation poses new challenges to companies' capital strategies ...

Unless oil and gas prices increase with little or no interruption, strong pressures to reduce oil company weightings in investment portfolios will emerge. The greatest burden of adjustment will fall on the more oil price sensitive companies evaluated in this study.

It is very possible that a repeat in less extreme form of the 1998 experience will occur and that acquisition opportunities at more credible P/E ratios will again become viable. This will be a critically important window of opportunity for some companies ... to acquire assets in key business plays. At the same time that strategy is in flux, prior strategy has left many companies in a weak and poorly prepared state.