

ON POINT

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GORDON ENERGY SOLUTIONS

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

IN THE NEWS

Gulf of Mexico –

Statoil and RepsolYPF continue to build their positions in the Gulf of Mexico with new acquisitions. Statoil acquires Anadarko's interests in Knotty Head and Big Foot. RepsolYPF acquires Genghis Khan.

In addition, Anadarko swapped its Canadian assets in the MacKenzie Delta, Beaufort Sea and the Yukon for a 12.5% interest in seven deepwater blocks held by Chevron. These blocks increase Anadarko's share in the Tonga discovery.

Woodside has withdrawn its bid for Energy Partners after failing to win more than 50% of shares in the tender.

Dominion confirms previous speculation that it will divest all of its upstream division except for Appalachian gas assets. In light of high values placed on US upstream assets the pressure to sell is probably considerable. However, the company is going slow.

Gazprom & Lukoil –

Gazprom takes essential steps to strengthen its position as it pushes for, and gets, much higher natural gas prices for CIS shipments. The recent agreement to partner with Lukoil in future E&P projects is a related step that will impact ConocoPhillips.

Oil sands –

Alberta approves next Suncor expansion project including an additional upgrader train to increase output from 350 to 500 mb/d by 2010 to 2012. An expansion currently underway will increase output from 260 to 350 mb/d by 2008. Construction is reportedly 65% complete.

Following the EnCana/ConocoPhillips deal, Marathon an interest in partnering with a player in the oil sands. The structure of such a deal is likely to include the same combination of upstream and downstream assets.

Growth but at what price?

Several events this past month serve to again emphasize the points made in last issue's "Looking Forward" section.

There, we argued that, due to industry trends and market circumstances, "...widely-used, conventional measures of oil and gas company performance ... are misleading at best ...". Clinging to these conventional measures is made all the more dangerous since they are often also the standards by which companies are articulating their strategic goals.

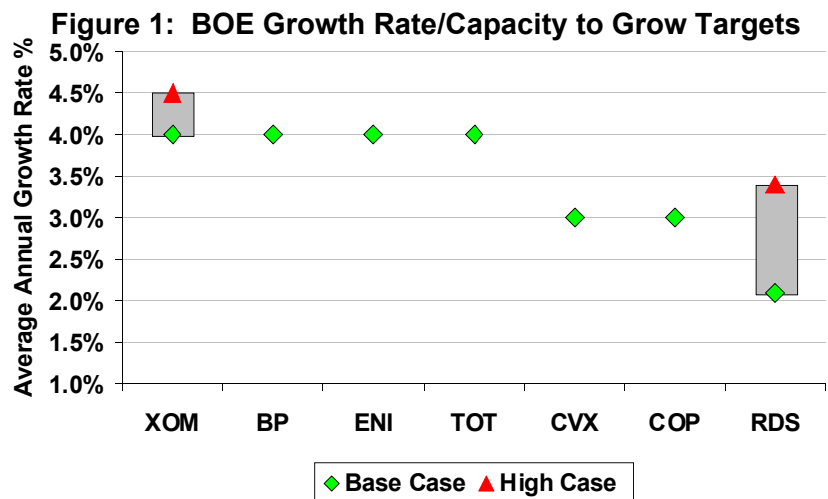
A widely shared goal of oil and gas companies is relatively rapid and sustained volumetric growth over the next five years or more. This is true for the national and quasi-national oil companies of Russia and China. For example, in last month's issue we noted Lukoil's decision to increase its growth target from 4.5% to 6.7% on an average annual basis. It is also true for the global international oil companies, as illustrated in Figure 1 as

well as a wide array of medium and small E&P companies.

The choices a company has made will be reflected in the planned sources of growth. These sources of growth have critically important implications for markets and for potential value creation.

For many companies, the potential for growth from the oil segment is driven by three key sources. The first of these oil drivers are the world-scale, integrated frontier projects in heavy oil including Venezuelan Orinoco and Canadian oil sands projects. The second oil driver is deepwater projects primarily in the Gulf of Mexico and West Africa. The third source is associated liquids production from major gas projects. Qatari LNG projects "spin off" large volumes of associated liquids as do the Iranian projects that strip liquids from gas used internally. Moreover, Qatar is poised to add large liquids volumes from its gas-to-liquids (GTL) projects. While these two countries are key sources, look also to West Africa and some of the potential LNG projects in Australia.

Continued on p. 3



Source: Compiled from company statements and presentations.

LOOKING FORWARD



Cost Updates: Operating cost estimates for the 3rd quarter of 2006 are now available.

Performance Measures: As noted last month, a number of widely-used, conventional measures of oil and gas company performance (both absolute and relative to peers) are misleading at best and can, in fact, lead to wrong conclusions.

Three unambiguous examples of failing measures are boe production growth rates, production replacement rates and finding and development cost per boe added.

The graphics presented on pages 1 and 3 of this issue demonstrate, for the global competitors, just how un-alike two companies' barrels of oil equivalent reserves can be if one focuses on value rather than volume.

On the cost inflation front, data suggest that cost inflation pressures are continuing to ease as we approach the end of the year. Nevertheless, available information on such key items as drilling and operating cost point to year over year inflation rates in 2006 of nearly 40% and slightly more than 20%, respectively.

While it is widely believed that costs will stabilize in coming months, the outlook hinges very clearly on oil and natural gas prices and the resulting levels of industry activity.

Policy Echoes: Recent moves by Gazprom and other Russian companies highlight the continuing dependency of Russian policy on continued high oil prices and, now, the prospect for rising gas export prices.

Lukoil's announced increase in its growth rate targets is predicated on a growing role of natural gas in volumetric terms but also a rising value of this gas.

For now, prices offer continuing support of Russian moves to cut the role of the IOCs.

As companies respond to events in Russia and elsewhere, selected regions are clearly becoming focal points for new business development strategies. Canadian oil sands is an obvious example. We have also commented on the fact that recent entries into the Gulf of Mexico are driven in not small way by adverse policy changes elsewhere. Look also to Australia as this region is another outlet for industry capital.

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.

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OUR PERSPECTIVE



Natural gas figures prominently in the growth strategies of almost all of the companies we follow, including the Russians. The prominent role of natural gas, especially gas for the various key export markets, is extremely important for a number of reasons that are not being widely discussed. The heavy infrastructure capital requirements to deliver this gas to its final markets means that netbacks at the wellhead are often very low on a \$/boe basis.

For the six global international oil companies, identifiable new projects typically contribute 25% to 27% of worldwide output in 2010.

Figure 2 compares these companies on the basis of the value generated by new projects over their lifetimes. To do this:

- We calculated the discounted present value of future cash flows from the projects under a \$55 WTI mid-cycle price scenario.
- These values were then converted to the equivalent value generated per boe.
- Projects were then grouped on the basis of \$1 per boe increments and the respective percentage of cumulative future boe output from projects in each of these \$1 classes was calculated.

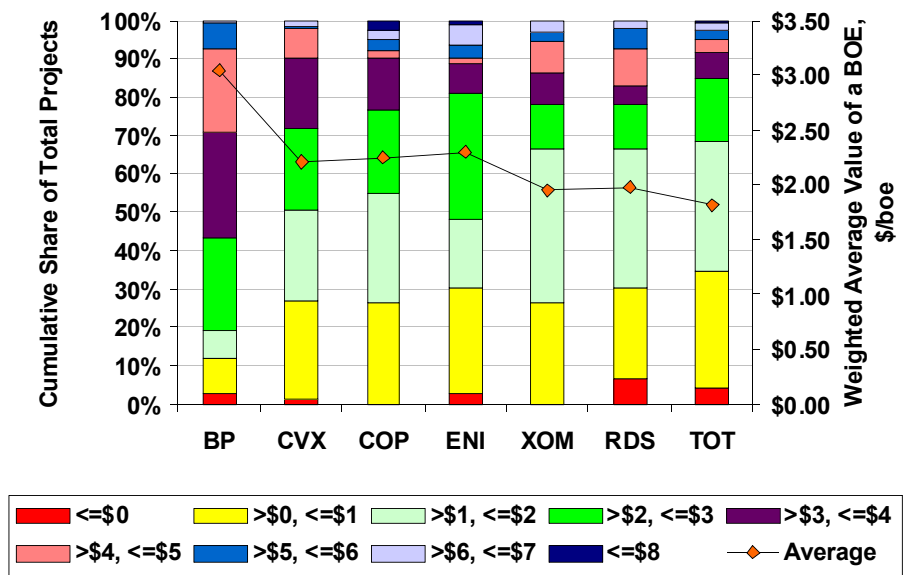
The resulting frequency distributions are shown in Figure 2 along with the weighted average value of all new project boe in the total company portfolio.

The value of new boe being brought on-line varies dramatically within the group of companies (ranging from BP's \$3.04/boe to \$1.82/boe in Total's case).

Total is used in Figure 3 as an example that is not unique by any means, Figure 3 compares the projected value contributed by legacy operations in each of the regions reported by Total with the value of a new project barrel. The difference is stark. Total has, by all accounts, been successful at replacing production as conventionally measured. However, Figure 3 suggests that it has been substantially less successful at replacing value-weighted barrels.

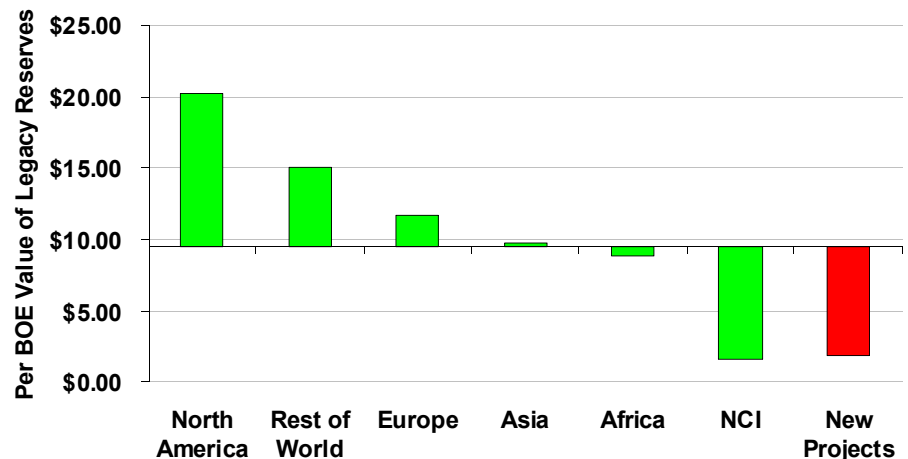
It is to be expected that most new project barrels will contribute less to value than legacy barrels. This is due to the costs associated with developing the new barrels. Moreover, production from many of the new projects in a company's portfolio is likely to be delayed while the bulk of legacy output is typically realized "up front". However, the difference here is too large to be due solely to these factors.

Figure 2: The Distribution of Project Value per BOE



Source: GES Growth & Performance Prospects Client Study.

Figure 3: Unit Value of a Barrel, Total's Legacy Assets Compared to its New Projects



Source: GES Total Corporate Model under the \$55 WTI mid-cycle case. The axes intersect at the weighted average value of a legacy barrel: \$9.50.

Why do companies differ so much in terms of the value generated by a new boe? The root causes are closely related to value-impacting differences in the type of projects that dominate each company's portfolio and the tax and licensing systems that apply to these projects.

BP's new project output, for example, is dominated by conventional and deepwater projects primarily in the North Sea, the US and Angola. By contrast, heavy oil, LNG and GTL dominates production from new projects at ExxonMobil, Shell and Total. relative roles of high-infrastructure projects in each company's portfolio.

There is a clear risk that volumetric growth goals will erode profitability, especially in a cost inflation environment. EnCana's announced reduction of its average annual growth rate target from 10% per annum to 5% explicitly recognized that costs have eroded the margins on some programs. What we are suggesting is a secular, long-term trend in the character of E&P investment opportunities that can be intensified by the effects of cost inflation.

Russia

In recent months, Gazprom has been actively positioning itself for what appears to be an expanded role in E&P and future gas marketing. The planned expansion includes both operations within Russia and externally. This process has continued in the past few weeks and has included:

- Rejection of international oil company proposals to become partners with Gazprom in the Shtokman gas field development
- The apparent shift of the Shtokman development focus away from LNG and in favor of piped supplies to Europe. These shipments will be made via the Gazprom/Wintershall/E.ON Ruhrgas Nord Stream pipeline in the Baltic.
- Continuing pressures on CIS countries to accept very large price increases for future gas deliveries
- Extending existing contracts to supply gas to Italy but, at the same time, gaining agreement from ENI that Gazprom will be able to market gas directly beginning in 2007
- Formation of an "alliance" with Lukoil to combine for purposes of

future E&P opportunities but with Gazprom insisting on a 51% stake

Political factors are always important in the maneuvers of Russian oil companies as well as public policies with respect to control and fiscal terms.

However, it is a mistake to assume that all of these moves are purely politically driven. Other factors are at work that are best seen as reasonable and necessary steps if Gazprom is to succeed. These include:

- **Pricing** -- The adverse effects of artificial subsidies for natural gas and sales of oil within Russia and the CIS countries have been a key factor in multiple companies' efforts to achieve growth through export. The previous price discounts to CIS countries place a very large burden on Gazprom and clearly distort demand. The burden of these discounts of course filters back to the other companies producing gas in Russia. As oil production has recovered over the years it is not surprising that Lukoil's growth targets have shifted to a heavy reliance on natural gas. Nor is it surprising that Lukoil welcomed higher gas prices at the wellhead in its recent agreement with Gazprom. By our estimates, the price increase to Ukraine alone will add annual revenues of US \$1.5 billion. A similar increase in the price to Belarus will add another billion or so. The value of these revenues should not be underestimated as Gazprom looks to future investment requirements. Nor should we entirely discount the fact that these price increases may have enabled Gazprom's hard line attitude on Shtokman.
- **Shtokman** -- Gazprom made it clear in its announcement rejecting IOC bids to participate in the project that the "foreign companies could not offer assets that compare to the volume and quality of Shtokman's reserves." The characterization of the field's "quality" of reserves is debatable. However, Shtokman's size makes it a potentially very useful bargaining chip for Gazprom as it tries to barter its way into other, less costly and risky assets. Certainly we would not be surprised to see an IOC using such an asset in much the same way if the tables were turned.

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- **External Alliances** -- Gazprom should be credited for recognizing that alliances are a growth tool that is essential to the company's success. Both the Nord Stream joint venture and the agreement with ENI are clearly reasonable efforts to expand Gazprom's position using its existing assets as a source of leverage. In many respects the logic of these integrated alliances is very similar to the logic of alliances that combine US refinery capacity projects with Canadian oil sands projects.

While these moves are logical and have a basis in good business strategy, they are no doubt seen as doubly good if they also serve some political or policy goals as well.

Gazprom is clearly still being used as a political club in at least three critical areas: Sakhalin, TNK-BP and Lukoil.

- The newly formed "alliance" with Lukoil is an alliance in name only. The key elements of the deal reflect the continuing drive to cut international oil company participation. In a more commercial environment it is difficult to see why Lukoil agreed to Gazprom's arbitrary 51% share in future projects.
- Similarly, the issue of Gazprom participation in Sakhalin II is still outstanding. It is not clear to what extent this participation and resolution of government dissatisfaction over costs and fiscal terms will be linked.
- Finally, Kovykta remains stalled with the potential for a Gazprom buy-out of the Russian shareholders' 50% stake substantial. The recent announcement of top level talks on large joint ventures and LNG trading is an additional twist.

Bolivia: Ten companies signed new exploration and production agreements including BG and Petrobras. Essential elements of the agreements appear to be reaffirmation of a minimum 50% government share of gross revenues, cost recovery from the remaining 50% and a further government share of any remainder after costs.

Enarsa and YPF (the national oil companies of Argentina and Bolivia, respectively) will tender a US\$1 billion pipeline project to expand Argentina's gas import capacity to almost 1 bcf/d by 2010.

Venezuela: The government expects ExxonMobil and Petro-Canada to provide a majority interest in the La Ceiba project.

COST WATCH



Tubular steel prices remained at their recent peak in the 3rd quarter.

Citing higher costs of drilling gas wells, EnCana has followed up its earlier announcement that it was reducing 2006 drilling plans by cutting its annual production growth rate target through 2009 from 10% to 5%. It is noteworthy that the company has indicated its intent to divert the cash flow to share repurchases instead.

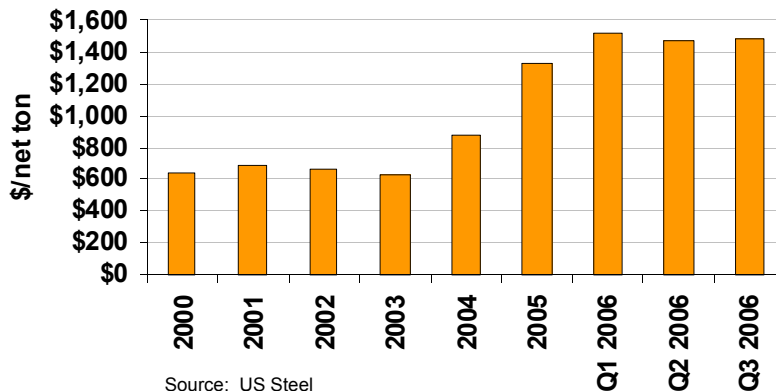
November Producer Price Indices

Evidence continues to build that drilling cost inflation is moderating in the last months of 2006. In fact, recent month to month costs have actually fallen.

Initial estimates are that drilling costs are down in October compared to September. The decline is smaller than in September. Drilling costs continue to be up by slightly more than 24% in October of 2006 compared to last October.

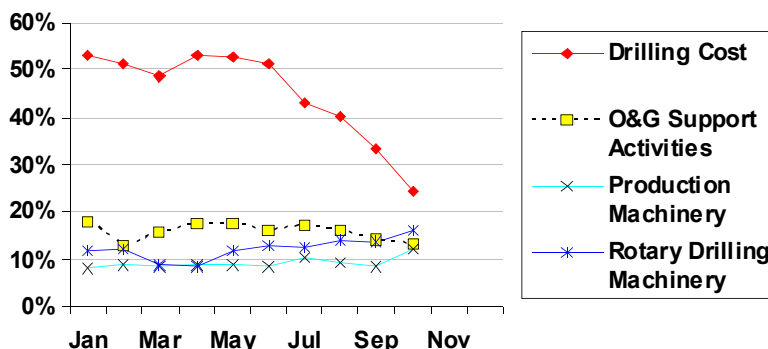
Other costs including support activities and selected machinery and equipment continue to be up by 10 to 20%.

Tubular Steel Products Price

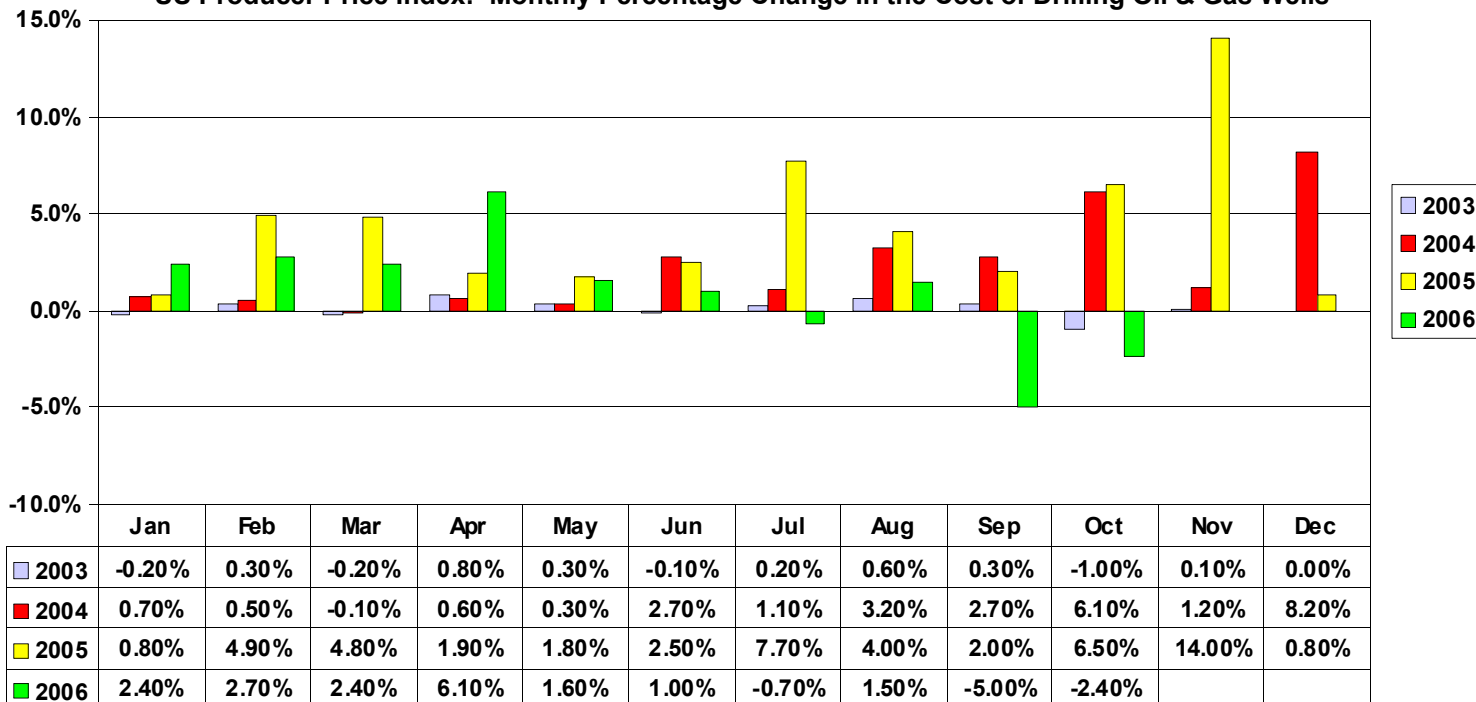


Source: US Steel

Annual Inflation of Selected Industry Costs



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	Annual
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%	43.2%
2006	53.3%	51.1%	48.7%	53.0%	52.7%	51.3%	42.8%	40.3%	33.3%	24.4%			38.3%

COST WATCH, OPEX



Third quarter reporting is now complete for the sample of companies monitored for trends in operating cost inflation. The worldwide average of unit operating costs reported by a cross-section of oil and gas companies increased at a median rate of 13.9% in the third quarter of 2006 compared to the same quarter in 2005. This inflation rate is down from 24% in the second quarter and 29% in the first quarters of 2006, respectively. On a year-to-date basis, the median increase in unit costs of producing oil and gas is 21.2%

Evidence continues to support our earlier conclusion that, while operating costs are rising very substantially in 2006 compared to 2005, there is evidence that the rate of inflation is moderating at a number of companies. There are at least two reasons why this should not be surprising. First, natural gas prices have fallen very substantially throughout 2006 and oil prices have fallen in the third quarter from their previous peaks. As a result, the upward pressures on severance taxes is likely to moderate. A second reason why we should expect a moderation in inflation is that service sector and supply industries have had some time now to catch up.

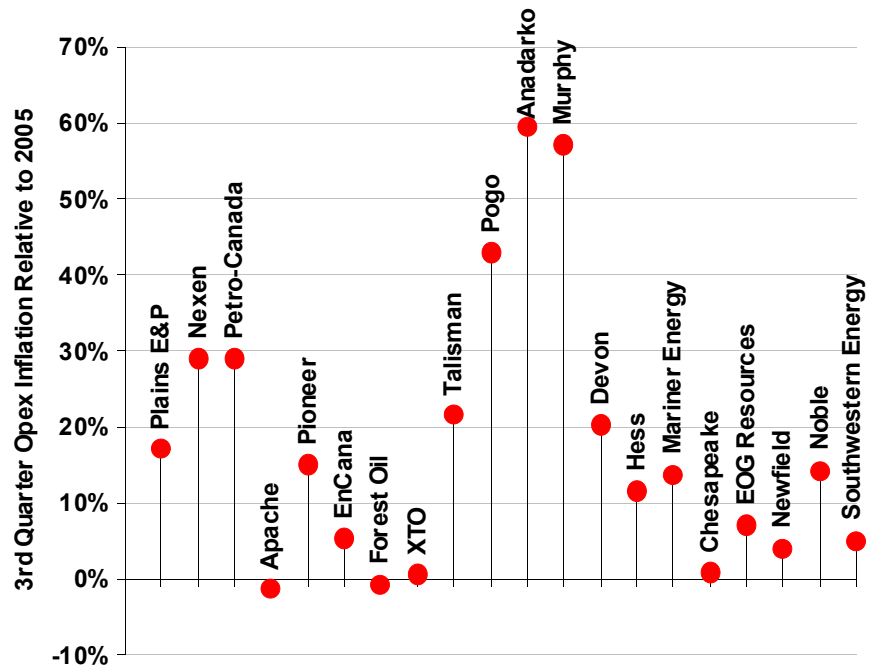
The national data on cost inflation shown on the preceding page has been showing this same pattern of costs rising but at a decelerating rate.

A smaller sample of companies report their costs in sufficient detail to exclude the effects of production taxes. Since these will often tend to rise and fall with oil and gas prices, the residual of costs after excluding tax inflation is somewhat like the "core" inflation rate. While the number of companies is limited to only 13 from this group, the resulting median year-to-date inflation excluding production taxes has been 19%.

Third Quarter Inflation Rate

Third quarter cost inflation rates are widely dispersed across the companies in our sample. In more than a few cases, costs in the third quarter of this year are not dramatically higher than they were at the same time last year.

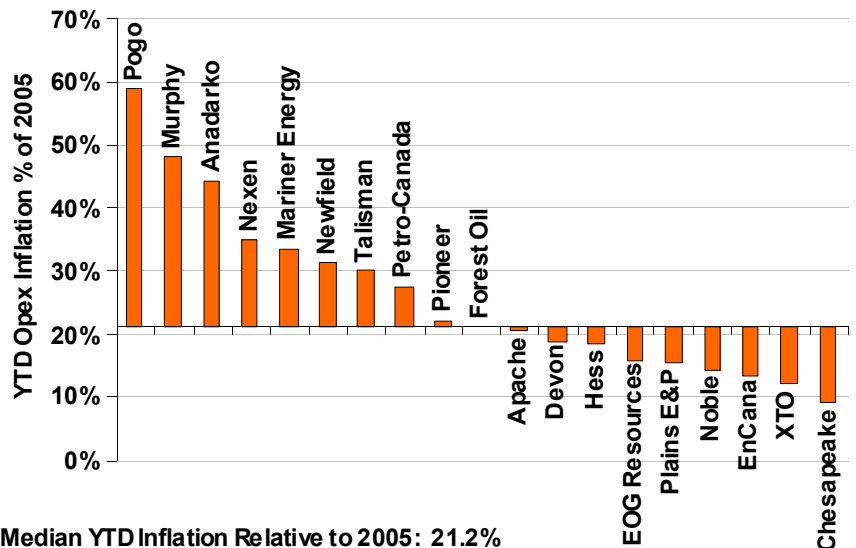
Nevertheless, a number of companies are showing cost inflation rates of nearly 20% or more. These companies typically show above median year-to-date cumulative inflation rates as well.



Year-to-Date Inflation Rate

The year-to-date data compares the first 9 months of 2006 to the first 9 months of 2005.

Through the 3rd quarter, the median year-to-date increase in operating costs is slightly more than 21%.



Median YTD Inflation Relative to 2005: 21.2%