

MUSINGS FROM THE OIL PATCH

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Note: *Musings from the Oil Patch* reflects an eclectic collection of stories and analyses dealing with issues and developments within the energy industry that I feel have potentially significant implications for executives operating oilfield service companies. The newsletter currently anticipates a semi-monthly publishing schedule, but periodically the event and news flow may dictate a more frequent schedule. As always, I welcome your comments and observations. Allen Brooks

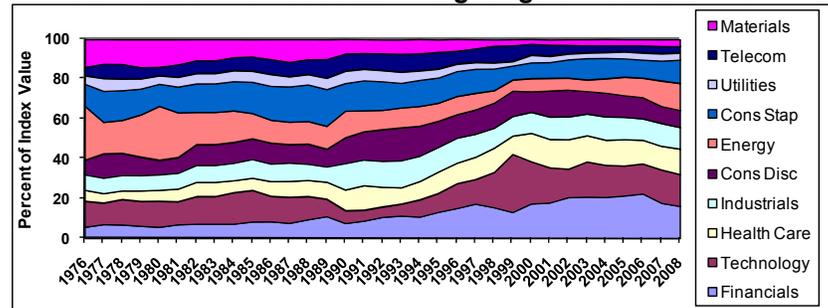
If Oil Stabilizes; What About Energy Stocks?

Does the magnitude of the energy stock declines signal they are near a bottom and prepared to begin climbing higher?

From early July to just a few days ago, crude oil prices have dropped by 38%. Over the same time period, the Philadelphia Oil Service Index (OSX) is off 22% while the Amex Oil Index (XOI) is down 12%. Both indices peaked before crude oil reached its nadir, so measured from their respective peak prices to last Friday, the OSX is down by 29% while the XOI is off by 24%. Does the magnitude of the energy stock declines signal they are near a bottom and prepared to begin climbing higher? Unfortunately, we don't think so. Why? Largely because of traditional market factors such as rotation among favored investment sectors and secondarily because the weakness in commodity prices, the cutbacks in drilling in North America and business impacts due to hurricanes Gustav and Ike are dimming the earnings outlook for energy stocks.

Seldom does one investment sector dominate the stock market (broad market index funds such as the S&P 500) for extended periods of time

What we know about the stock market is that seldom does one investment sector dominate the market (broad market index funds such as the S&P 500) for extended periods of time. Technology stocks were hot and dominated the index during the latter part of the 1990s. But in fact, based on the S&P 500 index sector composition, technology stocks only had the top sector weighting for 1998-2000. Those stocks remain a significant factor in today's market with 16% weighting and a ranking of second place in the index. The financial sector continues to dominate the index with a 16.1% weighting. Financial stocks have accounted continuously for the greatest sector weighting in the S&P 500 index since 2001, but given the recent implosion of the industry and many of its stocks, one has to wonder how much longer financials can continue to lead the index.

Exhibit 1. Stock Market Sector Weightings Shift Over Time

Source: Standard & Poor's, PPHB

You would have thought that almost all institutional investors had put 100% of their portfolios into energy stocks

Energy stocks today account for 13.6% of the S&P 500 index and rank third among the ten sectors. That is the same ranking as last year, although the sector weighting is now about one percentage point higher. Energy stocks have not been the number one sector in the index since the industry's heydays of the 1970s through the mid 1980s. It is interesting to examine these sector weightings as they often seem at odds with the investor sentiment expressed by the market seers who regularly appear on CNBC and the other business channels. If you listened to them earlier this year, you would have thought that almost all institutional investors had put 100% of their portfolios into energy stocks.

As market sentiment appears to be against energy at the present time, we were not surprised to learn from an interview in a recent *Barron's* issue with Ron Sloan who manages the InvescoAim Advisors Mid-Cap Core Equity Fund that his fund had reduced its energy position and increased its financial stock weighting. According to Mr. Sloan, his fund had done a significant rebalancing shifting from a 15% weighting in energy stocks earlier this year to a 15% weighting in financial stocks now. He never says that he has totally abandoned energy, but his low financial weighting was only 5%, so we would suspect he has probably reduced his energy weighting to that amount or possibly below. Of his top holdings list – BJ Services (BJS-NYSE) - is in ninth place with a 1.9% weighting in the portfolio.

“Bankers have to learn that banking is an industry like any other industry.”

While it appears that Mr. Sloan is playing a typical market rotation from commodity-driven sectors to financially-driven businesses, we found another interview in that same *Barron's* issue with Switzerland-based asset manager Felix Zulauf an interesting contrast. Mr. Zulauf has traditionally been a risk-averse investor, which is not surprising given his heritage and location. But we found Mr. Zulauf's answer to the interviewer's question about the outlook for financial firms globally to be very sobering. He said: “Bankers have to learn that banking is an industry like any other industry. The financial sector has grown dramatically over recent decades, and I think it has grown to a level that is too big in proportion to total GDP.

“Global financial-sector debt has gone up fivefold in the last 25 years

Given the changes underway in the financial sector – Wall Street firms become bank holding companies and the huge wave of industry consolidation - it is difficult to see how these companies can be as or more profitable in the future than they were in prior years

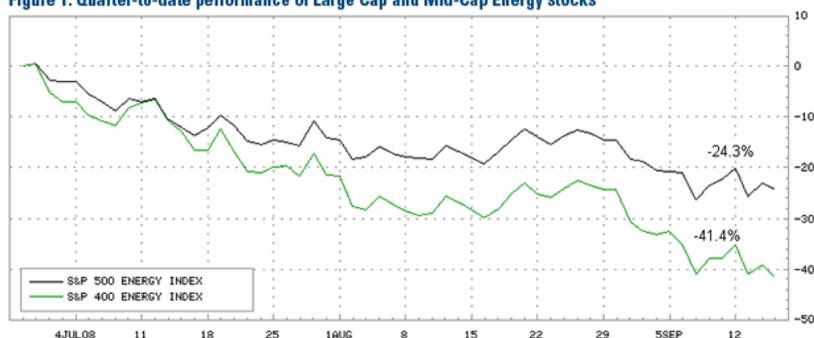
relative to GDP. So what you now see is a reversal back to the mean. That means that the financial sector as a profit generator, as an employer and as a provider of services will shrink over many years – back to a level that is more normal than in recent years. The financial-services industry has been treated extremely well for a long time and people made a lot of money and created careers, etc. But it is going to be much, much tougher in the next 10 years globally.”

If Mr. Zulauf is right, it is hard to believe that financial stocks will be better performers once they experience the snapback rebound from the devastation that is impacting the sector now. That bounce will probably come with the approval of some form of bailout legislation. However, given the changes underway in the financial sector – Wall Street firms becoming bank holding companies and the huge wave of industry consolidation - it is difficult to see how these companies can be as or more profitable in the future than they were in prior years. Lack of profitability will be an anchor on financial stock price performance, although compared to their current disastrous financial performance, maybe future profitability won't look quite so bad.

Could the credit market turmoil and the restructuring of the financial industry signal a change in which sectors become the most favored investment? If you look at what has happened to energy stocks – both large and mid cap energy stocks – since the peak in oil prices in July – they have been severely beaten up. The long-term fundamentals of the energy industry have not been altered, but they are not as bright as they were some months ago.

Exhibit 2. Energy Stocks Have Suffered Since Peak Oil Prices

Figure 1: Quarter-to-date performance of Large Cap and Mid-Cap Energy stocks



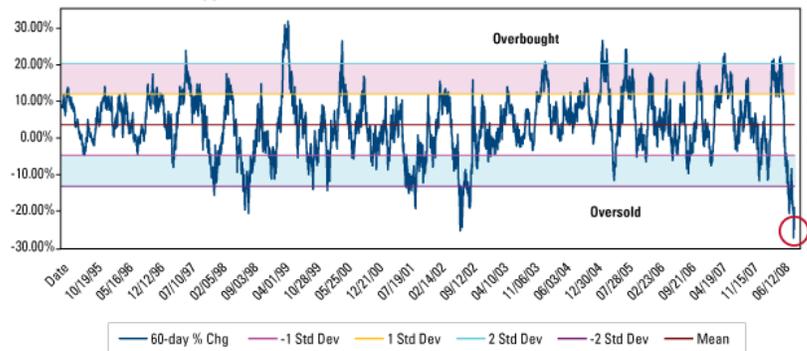
Source: U.S. Global Investors

If you look at the S&P 1500 Energy Index Oscillator, it shows that energy stocks have become the most oversold since either of the major industry and market downturns in 1998 or 2001

If you look at the S&P 1500 Energy Index Oscillator, it shows that energy stocks have become the most oversold since either of the major industry and market downturns in 1998 or 2001. In both of those periods, investors were questioning the long-term health of the energy business. That is not an issue today, although maybe there should be a little more questioning about the future outlook. Our sense is that what is going on in Washington, D.C. today is setting the stage for the next rally for energy stocks. It will probably come as a result of investors clamoring for hard assets over paper assets and more solid earnings outlooks and balance sheets than other

investment sectors. Yes, the world will be different in 2009 and thereafter, but energy will always be needed and since it continues to be harder to find and deliver to the market, the returns for that effort by the participating companies should remain attractive. A positive long-term outlook does not deny that the road to energy nirvana will be smooth. It will be tough for a while with lots of long-term challenges. These challenges may represent investment opportunities.

Exhibit 3. Energy Stocks Appear Most Oversold In 13 Years
S&P 1500 Energy Index Oscillator



Source: Bloomberg

Source: U.S. Global Investors

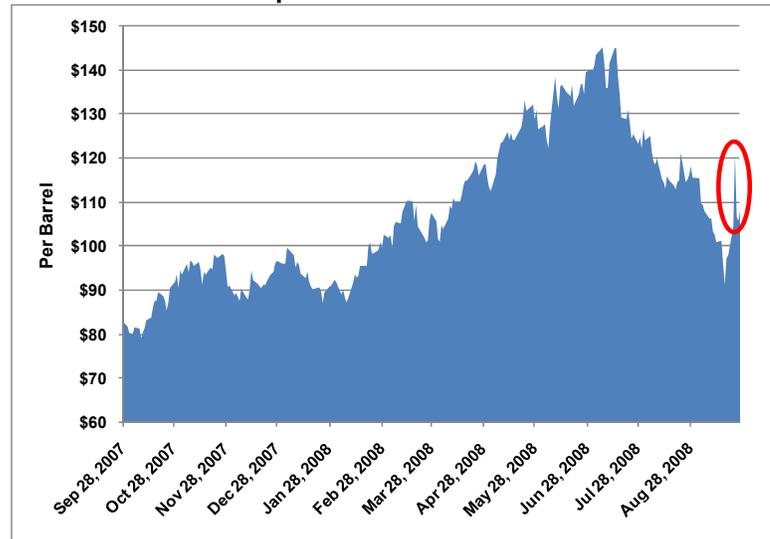
Does Anyone Know The Real Price Of Oil?

Last Monday crude oil futures prices experienced the biggest one-day jump ever since they began trading in 1983

Last Monday, following the U.S. government's proposal to create a \$700 billion fund to purchase distressed financial assets from banks and other financial institutions in an attempt to stem the current credit crisis, crude oil futures prices experienced the biggest one-day jump ever since they began trading in 1983. For the day, the October crude oil futures contract price rose by a net of \$16.37 per barrel although it had been up as much as \$25 intraday. From the \$104.55 closing price on September 19th, the futures contract price hit \$130 before closing the day at \$120.92. That price spike is highlighted in the red oval in Exhibit 4. Part of the explanation for the sharp price rise was buying by investors who were short oil contracts as the October contract was due to expire at the close of trading that Monday. This conclusion was clearly demonstrated by the fact that the November crude oil futures contract only rose from \$102.75 to \$109.37 that day.

As shown by the one-year chart of the November 2008 crude oil futures contract price, the recent low price for the futures contract (\$91.15 on Sept. 16th) put the oil price about on a par [around \$90] with the level it traded at during much of the mid November 2007 through early February 2008 period. Given the dramatic movement of oil futures prices this year and their impact on energy equities, energy consumption and energy capital spending, one can reasonably ask: What is the true price for oil? Should it be in the

Exhibit 4. Oil Price Spikes On Bailout Announcement



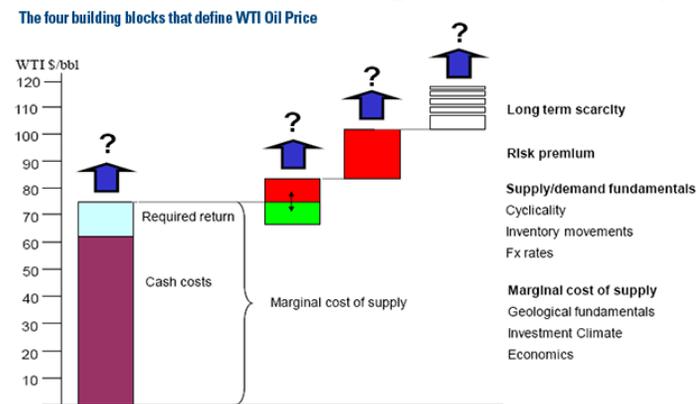
Source: EIA, PPHB

\$90 to \$100 a barrel range as it was late last year and earlier this year, or should it be in the \$135 to \$147 range it was in July? Or, heaven forbid, should it be a number closer to \$65 to \$75? Forecasts for oil prices for the balance of this year and in 2009 that we have seen cover a wide range. From lows of around \$80 to high projections of \$150 per barrel span the range of these estimates, although we have seen specific projections as low as \$65 and as high as \$500.

Once you get beyond the marginal cost of supply all other influencing forces are investor and trader reactions to global market conditions

One of the best explanations of the factors that go into determining the price of oil is the chart in Exhibit 5. It shows that once you get beyond the marginal cost of supply, which is defined as cash costs and a required return on investment factor, all other influencing forces are investor and trader reactions to global market conditions and perceptions of what these conditions may mean for the supply and demand for crude oil.

Exhibit 5. Do Oil Price Building Blocks Matter Today?



Source: The Clingendael International Energy Program: "An Essay on High Oil Prices in a Supply-constrained World".

Source: U.S. Global Investors

One of the reasons for the sharp rise in oil prices during the first half of 2008 was the weakness in the value of the U.S. dollar

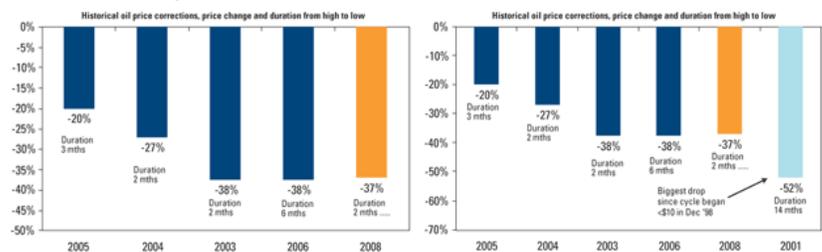
The invasion of Georgia by Russia and the escalation of the internal political conflict in Nigeria should have had a greater upward pressure on oil prices

The answer to the oil price question, however, depends upon how accurately the oil price trend of this year reflects the true value of a barrel of oil. One of the reasons for the sharp rise in oil prices during the first half of 2008 was the weakness in the value of the U.S. dollar. On the other hand, the reason for the recent fall in the price of oil was the strengthening of the dollar's value. Another explanation for the year's high oil price was an increasing geopolitical risk premium associated with the escalating violence in Nigeria and later the possibility of a military confrontation by either the United States or Israel with Iran over its nuclear facility. The last major influencing factor in the price of oil has been the health and direction of the global economy, with particular emphasis placed on the condition of the OECD economies that are the largest oil users.

The volatility of oil prices in recent weeks and their rapid decline, in our opinion, suggests that changing outlooks for the economy and the value of the dollar rather than heightened geopolitical tension have been the contributing factors. The invasion of Georgia by Russia and the escalation of the internal political conflict in Nigeria should have had a greater upward pressure on oil prices this summer, but instead seem to have been ignored by the market. More recently, Russia's overtures to South American and the Middle Eastern governments designed to demonstrate the country's re-emergence on the world's stage as a major political power and to counter the influence of the United States in these regions of the world should also have boosted the geopolitical risk premium in oil prices, but didn't.

The fall in crude oil prices during the summer months suggest that the value of the U.S. dollar and the growing concern about the impact on global oil demand from weakening economies was the principle factor driving oil prices lower. But after oil had corrected from its lofty peak of \$147 in July to below \$100, the price of oil has bounced back up largely on the strengthening of the U.S. dollar and the growing consensus view that the U.S. government financial recovery efforts will succeed and prevent a recession in the country with its corresponding loss of oil demand. Given the dramatic drop in crude oil prices this summer, we thought it would be interesting to see how the 2008 oil price correction compares to past oil price corrections and whether that knowledge might provide us any insight into future oil price trends.

Exhibit 6. 2008 Oil Price Correction May Have Run Its Course
Oil market corrections; -40% in 2 mths is the norm ... most of the time.



Source: U.S. Global Investors

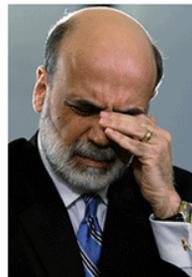
Most of these corrections of 20% or greater occurred over two month periods, with one lasting three months and another six months

Over the past six years, there have been five corrections in crude oil prices of a minimum of 20%. Most of these corrections occurred over two month periods, with one lasting three months and another six months. If one were to average the length of time, it would suggest that corrections of this magnitude last about three months. But as shown in the graph to the right in Exhibit 6, the greatest decline and longest oil price correction was attributed to 2001. U.S. Global Investors attributes the start of this 14-month correction to the implosion of the hedge fund Long Term Capital Management and the currency collapse of the Russian Ruble. We have difficulty accepting this explanation since LTCM failed in early 1998 and over the following 14-month period the price of West Texas Intermediate (WTI) oil increased by roughly \$10 per barrel. However, if one looks at the period of 1997 to mid 1999, associated with the Asian currency crisis and the glut of OPEC production, oil prices fell by nearly 60%. To us that should be the greatest correction. Regardless of the chart and its explanation (possibly wrong), the point is that huge price drops have been an anomaly rather than the rule, and the current oil price correction fits into that former category.

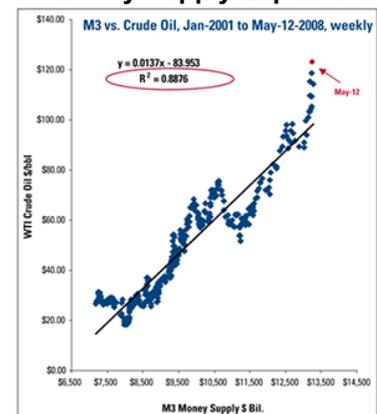
The U.S. financial bailout could put a floor under economic activity

So what is, or rather should be the price of oil? We suspect that if the global economic condition deteriorates further the oil price will resume its downward slide. That could be helped along if the U.S. dollar value improves making paper assets more valuable than hard assets, i.e., commodities. On the other hand, the U.S. financial bailout could put a floor under economic activity. But the \$700 billion package is likely to also result in a further acceleration in the pace of U.S. money creation that has been closely associated with rising crude oil and other commodity prices. Our best guess is that we are at an inflection point and being able to predict the future oil price is virtually impossible. The safest position is to assume it will trade somewhere around where it is currently, or about \$105 per barrel, plus-or-minus 10%. That suggests a trading range of \$95 to \$115 per barrel with possible spikes outside of the range.

Exhibit 7. Bailout Should Stimulate Money Supply Expansion



Government will continue to print money, like the recent \$700 Billion bailout of Fannie Mae and Freddie Mac, to support the economy



Source: Sifel Nicolaus & Co., BLS, Federal Reserve, WTI crude oil prices, Sifel Nicolaus recreation of Non-M2 M3 data components (not including institutional money funds) after February 2006.

Source: U.S. Global Investors

Japanese Bathers May Reshape Energy Policy

Japan, like most countries in the world today, is struggling to find ways to reduce its energy consumption and its energy bill. One source of cheap power the country is looking to exploit is geothermal power by tapping deep underground volcanic-heated water as a source of power to generate electricity.

Japan has nearly ten percent of the world's active volcanoes and thousands of hot spring resorts

Japan has nearly ten percent of the world's active volcanoes and thousands of hot spring resorts. The owners of these resorts are up in arms over proposals to siphon off some of these deep volcanic hot water sources to create power. According to government figures, Japan has a \$183 billion annual bill for imported oil that it would like to reduce. It is now battling the 7,700 spa resorts that last year attracted an estimated 137 million bathers over the control of hot water.

While no spas have reported damage from geothermal plants, that may be because it is difficult to prove according to spa owners. Mr. Toyoshiro Kawazu, managing director of Hizenya Hotel Group, was interviewed by *The Straits Times*. He commented that "We can't dig down 1,000 meters to prove they [geothermal plants] are at fault." Mr. Kawazu's family owns a 300-year old spa on Kyushu, the southernmost of Japan's four main islands. Mr. Kawazu successfully challenged Electric Power Development, one of Japan's largest power companies, in a five-year battle that ended last year. The company withdrew plans for a geothermal power plant on Kyushu after Mr. Kawazu and other local residents refused to sell the company land.

It currently costs 20 yen (\$0.19) to produce one kilowatt of power from an oil-fired power plant compared to 8.3 yen (\$0.08) for geothermal energy

The economic opportunity from tapping this deep volcanic water source is significant. It currently costs 20 yen (\$0.19) to produce one kilowatt of power from an oil-fired power plant compared to 8.3 yen (\$0.08) for geothermal energy according to Japan's New Energy and Industrial Technology Development Organization. Oil-fired power plants also produce 742 grams of carbon dioxide per kilowatt-hour of energy compared with 15 grams for geothermal energy.

This battle highlights once again the economic, social and political adjustments governments and citizens will have to make to both reduce their energy bills and to meet the environmental improvements the global population is demanding. So who will win – 7,700 spa resorts or the Japanese economy? Stay tuned.

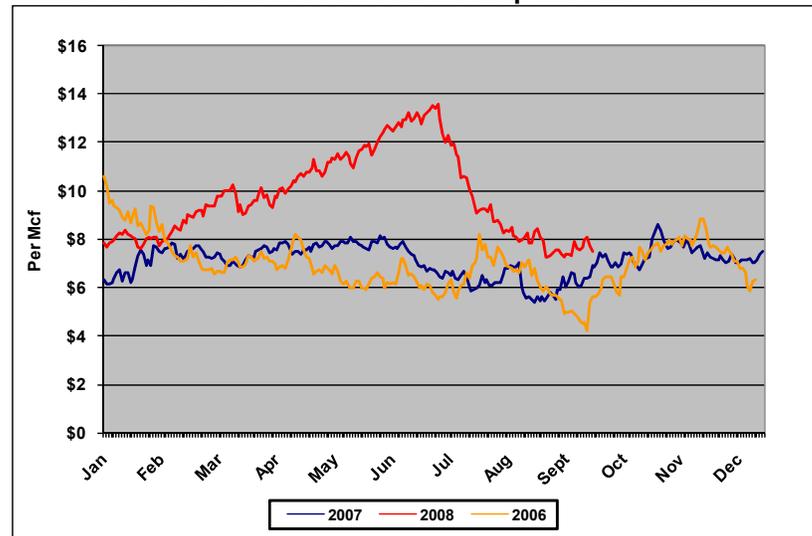
Financial Bailout Gives Cover to Gas Production Cut

Last week, Chesapeake Energy Corp. (CHK-NYSE) announced the scaling back of its aggressive capital spending program through 2010 and the curtailment of a portion of its non-hedged natural gas production. Both actions were in response to the sharp fall in natural gas futures prices experienced since June, a decline of 50%

Chesapeake CEO Aubrey McClendon can continue to appear on television and billboards promoting the environmental and economic advantages of clean natural gas and be the “good” guy

according to Chesapeake. This action marks the second year the company has cut its gas production in response to seasonally weak natural gas prices, but in contrast to last year the company’s action did not appear to make it onto any politician’s radar screen. Currently, the only political issue of importance is the \$700 billion bailout, or “restructuring” to use Jack Welch’s terminology, of Wall Street in an attempt to ease the growing credit crunch. So instead of being the bad guy, Chesapeake CEO Aubrey McClendon can continue to appear on television and billboards promoting the environmental and economic advantages of clean natural gas and be the “good” guy.

Exhibit 8. Gas Futures Price Have Collapsed Since June



Source: EIA, PPHB

Mr. McClendon’s letter made its way through the oil patch like wildfire because it was one of the few times a prominent energy industry executive had challenged a high ranking politician over her populist views toward energy prices

You may remember that last year after Chesapeake cut its natural gas production, Connecticut Governor Jodi Rell sent a letter to Congress asking for an investigation of those oil and gas companies that were reducing their production in, as she characterized it, an attempt to manipulate prices and rip off the consumer. Her letter engendered a five-page letter response from CEO McClendon who challenged Gov. Rell’s motives, but more importantly, questioned her lack of understanding of the workings of the natural gas industry that she had been so quick to chastise. Mr. McClendon’s letter made its way through the oil patch like wildfire because it was one of the few times a prominent energy industry executive had challenged a high ranking politician over her populist views toward energy prices, but also because it highlighted how little Gov. Rell, and politicians in general, know about the workings of the economically critical energy business that is highly visible to consumers and as a result is an easy political target. In the end, neither a proposed meeting between the governor and Mr. McClendon nor a Congressional investigation happened.

So just why did Chesapeake take these actions? As demonstrated

When gas prices fall to around \$7.50, the economics of these unconventional gas resource plays become marginal

by the chart in Exhibit 8, the near month natural gas futures price had collapsed from about \$13.50 per thousand cubic feet (Mcf) in late June to around \$7.50 in early September. According to Chesapeake's press release announcing its actions, the wellhead price for some of its gas in the Mid-continent region of the country had fallen into the \$3-\$5 per Mcf range, well below the futures price. As Chesapeake and other major independent E&P companies active in exploiting the gas resources contained in the unconventional gas shale basins of this country have pointed out, when gas prices fall to around \$7.50, the economics of these resource plays become marginal.

The company currently operates 157 rigs and plans to scale that back to 140 rigs by year-end 2008 and hold that count steady through 2009 and 2010

The rapid development of these unconventional gas resources has been a key component of the surging growth in domestic natural gas production – up almost nine percent this year. If gas production is to continue to grow, the industry needs current natural gas prices well in excess of \$7.50 per Mcf. And given that global natural gas prices have soared in the past year into the high teens to low \$20's per Mcf, anticipated supplies of liquefied natural gas (LNG) have not found their way to the U.S. but rather have gone to European or Asian buyers instead.

For Chesapeake, it plans to reduce its capital expenditures from now through the end of 2010 by roughly \$3.2 billion. However, of this reduction, approximately \$800 million of the cut is offset by the spending carry by BP Ltd. (BP-NYSE) that was part of its Haynesville acreage purchase from Chesapeake. The company further said that about \$500 million of the reduction will be offset by a spending carry as part of a 25% joint venture it is negotiating with a major oil company covering acreage in the Marcellus shale play in the Northeast United States. The remaining reduction – approximately \$1.9 billion – will come from slowing Chesapeake's drilling activity. The company currently operates 157 rigs and plans to scale that back to 140 rigs by year-end 2008 and hold that count steady through 2009 and 2010.

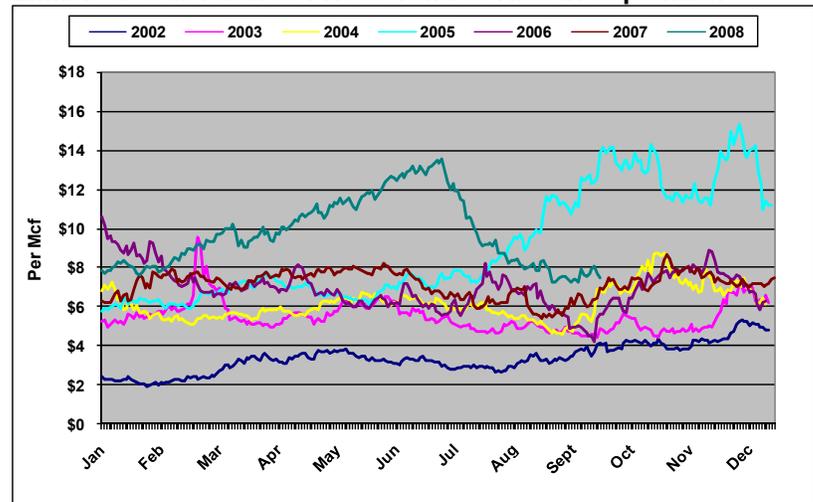
The combination of these curtailments – both voluntary and involuntary – will lead to Chesapeake's production growth in 2008 being only about 18% rather than its earlier projection of 21%

On the production front, Chesapeake announced it was curtailing about 100 million cubic feet per day (mmcf/d) of net production representing about 125-150 mmcf/d of gross production of its unhedged gas production. The company also indicated it will have about 45 mmcf/d less gas production due to the sale of the Haynesville acreage and about 60 mmcf/d less gas production associated with the sale of a volumetric production payment (VPP) and an unspecified amount of lost gas production due to damage caused by Hurricane Ike to a third-party's gas treatment plant to which Chesapeake had been shipping gas. The combination of these curtailments – both voluntary and involuntary – will lead to Chesapeake's production growth in 2008 being only about 18% rather than its earlier projection of 21%. The company has also indicated that it expects its gas production growth in 2009 and 2010 to be about 3% per year lower, more in the range of 16% than the prior 19% estimate due to lower drilling.

Since 2002 gas futures prices have only been above \$10 per Mcf in the fall of 2005 and briefly at the start of 2006 and again this year

The interesting thing about Chesapeake's moves is that they highlight the growing price sensitivity for domestic gas production. This means that the pace of development of unconventional gas resources may be somewhat at risk due to weak domestic gas prices. As shown in Exhibit 9, since 2002 gas futures prices have only been above \$10 per Mcf in the fall of 2005 and briefly at the start of 2006 and again this year. The other visual take-away from the chart is that gas prices tend to rise every fall as we head into the winter heating season, even if gas production is not curtailed.

Exhibit 9. Gas Futures Prices Tend to Rise In September



Source: EIA, PPHB

The rising price trend reflects both the underlying growth in natural gas demand as a result of environmental mandates and the tougher time the domestic E&P industry is having in boosting gas production

What is also noteworthy is that when one looks at a much longer term chart of natural gas futures prices, it is clear that prices have been demonstrating an upward bias since 2002 when the natural gas bubble that had gripped the U.S. market was clearly eliminated. The rising price trend reflects both the underlying growth in natural gas demand as a result of environmental mandates and the tougher time the domestic E&P industry is having in boosting gas production.

Exhibit 10. Since 2002, The Gas Price Trend Has Been Upward



Source: EIA

Solving the technical challenges associated with unlocking the resources contained in the gas shale formations that exist in the

The economics of unconventional natural gas plays are beginning to play a larger role in determining the mix of our future gas supply sources

United States in various regions of the country has been an important turning point for the gas industry. The technology for tapping these gas resources is clearly more expensive than with conventional gas resources. As Canadian natural gas supplies begin to shrink, the growth of domestic production has become even that much more critical for this nation's energy supply. But the economics of unconventional natural gas plays are beginning to play a larger role in determining the mix of our future gas supply sources. Because of the higher cost to exploit unconventional gas resources and our growing need for natural gas, higher prices are in our future.

Credit Crisis Pushing Oil Patch Woes Off Page

In the mid 1980s, the Global Marine bankruptcy was the largest in corporate history

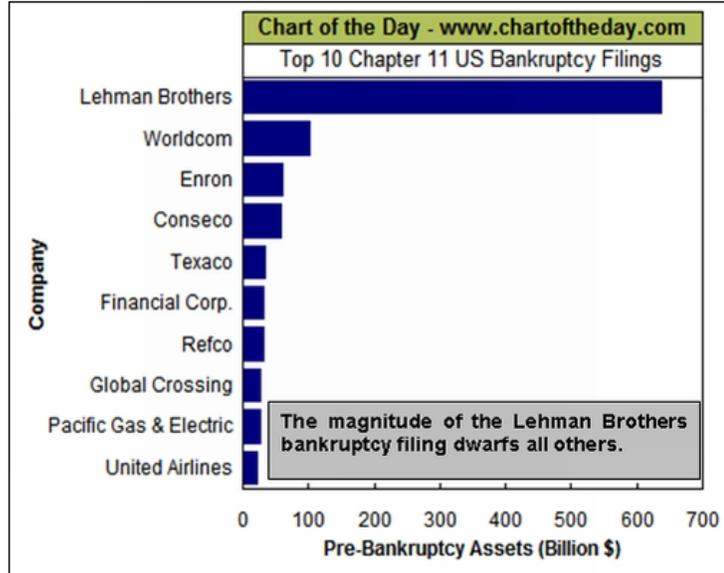
The current credit crisis has resulted in a number of financial institutions being forced into bankruptcy. One such institution – Washington Mutual – has the distinction of being the largest bank failure since 1934, although it is technically a savings and loan institution. The bank was seized by federal regulators Thursday night and the assets largely sold to J.P. Morgan Chase & Co. (JPM-NYSE) in an auction for \$1.9 billion.

Just as the failure of Lehman Brothers rearranged the rankings of the largest corporate bankruptcies in the history of the U.S., the failure of Washington Mutual did the same for bank failures. We had seen a listing of the ten largest corporate bankruptcies after Lehman's failure and noticed that one we had personally been involved with – Global Marine – failed to make the list. In the mid 1980s, the Global Marine bankruptcy was the largest in corporate history. The Global Marine failure occurred at the same time Continental Airlines was going down for its second or third time, we can't remember which, making the Federal bankruptcy court in Houston an extremely busy place. But as we soon came to realize, all the bankruptcy lawyers in the Global Marine case were also involved in the Continental Airlines case, just representing different parties. It turned out to be one big happy family that even ate lunch together at the Weil, Gotshal & Manges offices during court hearings.

If more large banks fail, the oil patch banks may soon drop off the infamous top ten rankings just as did Global Marine

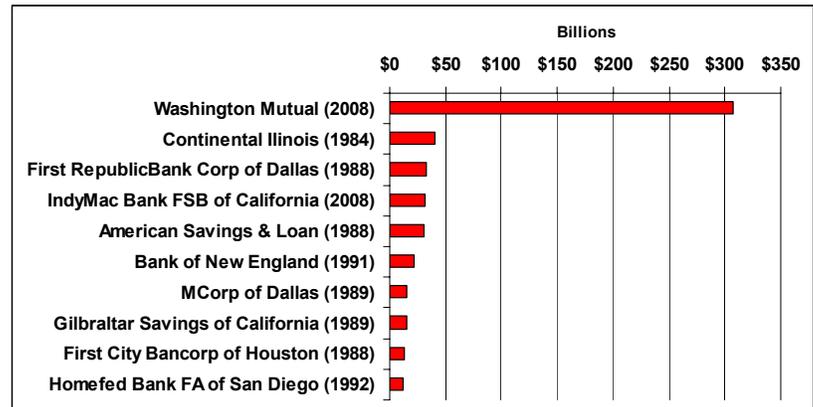
We thought it would be interesting to see where the banks that failed during the oil patch bust of the mid 1980s ranked given the latest bank failures. Exhibit 12 shows clearly that Washington Mutual is in a class by itself in terms of the assets of the company at the time it entered bankruptcy. But if more large banks fail, and the head of the Federal Deposit Insurance Commission (FDIC) stated on CNBC Friday morning that more would, the oil patch banks may soon drop off the infamous top ten rankings just as did Global Marine.

Exhibit 11. Ten Largest Bankruptcies In The United States



Source: www.chartoftheday.com

Exhibit 12. New Bank Failures Lower Oil Patch Bank Positions



Source: FDIC, Office of Thrift Supervision, Reuters

The list of oil patch banks that went under due to the oil bust brought back some nostalgic memories as we were account holders at two of them

The list of oil patch banks that went under due to the oil bust brought back some nostalgic memories as we were account holders at two of them. The list of oilfield related banks includes Continental Illinois, First Republic Bank, MCorp and First City Bancorp. For the old-timers reading the Musings, you may remember the bank buildings associated with the failed institutions. But today, those buildings carry other names, which can often make finding one's way in downtown Dallas or Houston a growing challenge. Time marches on and the list of institutions will change, but the common denominator is that bankers who fail to adequately price risk into their lending are candidates to make this hallowed list some day.

Fate of Energy Renewables in The Hands of Congress

The attendance at this highly successful program was not motivated by the approval of legislation to extend renewable fuels tax credits, but it certainly didn't hurt the audience's mood

Last Thursday, the auditorium of the Rice University Business School was packed for the Rice Alliance 6th Annual Energy & Clean Technology Venture Forum. The attendance at this highly successful program was not motivated by the approval of legislation to extend renewable fuels tax credits, but it certainly didn't hurt the audience's mood. Some 61 companies involved in developing new energy and clean technology products and services made their "elevator pitches" to the audience that included a number of venture capitalists and private equity investors focused on this sector.

What lies behind the enthusiasm for this program is its success in showcasing companies developing new energy and clean energy technologies. In the past, presenting companies often gained their initial funding from attendees, or were introduced to other potential funding sources by audience members. In some cases, companies received funds from a State of Texas program dedicated to fostering entrepreneurial efforts in the sector.

One of the keynote speakers at the meeting was Nancy Floyd, the Founder and Managing Director of Nth Power LLC, a San Francisco-based venture capital firm that was the first firm to focus on funding promising startup companies in the energy and clean technology sector. According to information on Nth Power's web site, Ms. Floyd recently was provided an opportunity to address the Democratic Party Convention in Denver and pitch the virtues of renewable energy technology.

Today, she said, there are hundreds of investment funds targeting this sector in contrast to barely a handful in 1997

Ms. Floyd presented an overview of the progress the clean energy technology business had made over the past decade. She showed that a decade ago, less than \$1 billion of venture capital funds was dedicated to this sector and there had been less than \$1 billion in initial public offerings of clean technology companies along with less than \$1 billion of merger and acquisition activity. In contrast, last year, the venture capital industry had \$3 billion in funds to invest in the sector; there had been \$17 billion in clean technology company IPOs; and \$33 billion of M&A transactions had occurred. Today, she said, there are hundreds of investment funds targeting this sector in contrast to barely a handful in 1997.

Renewable fuels made up 10.6% of the total energy produced in the United States during the first half of this year, up 5% from the first half of 2007

One of the reasons for the increased attention to clean energy technology is the role renewable fuels is playing in today's U.S. energy supply and the projected expansion of that role in the future. According to recently released data from the Energy Information Administration (EIA), renewable fuels made up 10.6% of the total energy produced in the United States during the first half of this year, up 5% from the first half of 2007. The report showed that renewable fuels – biofuels, biomass, wind, solar, hydropower, and geothermal – accounted for 3.61 quadrillion British thermal units (Btu) of the 34.16 quadrillion Btu domestically produced energy used by the country from January to June this year. That was up from

Total renewable fuels made up 7.4% of the total U.S. energy consumption, which compares with 8.1% for nuclear power, 21.9% for coal, 25.2% for natural gas and 37.3% for petroleum

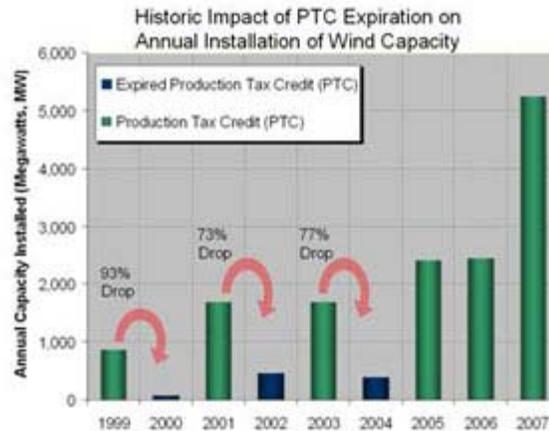
3.44 quadrillion Btu of renewable-energy production in the first half of 2007.

If we count the volume of renewable fuel imported – 24 trillion Btu – total renewable fuels made up 7.4% of the total U.S. energy consumption. This compares with 8.1% for nuclear power, 21.9% for coal, 25.2% for natural gas and 37.3% for petroleum. But an inhibitor to the growth of renewable fuels in recent years has been the lack of a consistent national energy policy, one component of which is tax credits and incentives to foster the growth of investment in the sector. That is why the U.S. Senate's passage of the Energy Improvement and Extension Act of 2008 that will provide roughly \$18 billion of tax credits for wind, solar and geothermal projects is so important. Of particular significance in the bill is the 30% tax credit for purchases of residential, commercial and utility-size solar photovoltaic systems with no cap on the amount of the investment for eight years. Previously this credit had been capped at \$2,000, meaning that the tax credit would be maxed out at on a project costing slightly over \$6,500. Now, no matter how much the project costs, an investor would be entitled to a 30% tax credit.

Another important aspect of this legislation is the extension of the production tax credit for wind power projects for another year. The tax credit for wave and ocean tidal projects was also extended. These tax credits apply to small wind and geothermal heat pumps as well as commercial projects. Lastly, investors subject to the alternative minimum tax (AMT) would not have these tax credits eliminated in that tax calculation. The one problem with the bill is that the U.S. House of Representatives, rather than heed a request from the Senate to vote on the exact same legislation, elected to change the bill before voting on it. On Friday, the House passed its version of the tax credit bill by a 257-166 margin, but now the two bills will need to go to a compromise committee to work out the differences. Since the Senate version had been voted down eight times previously, there is considerable risk that no compromise bill will be agreed to and voted on before the end of this congressional session. As shown in Exhibit 13, past expirations of the production tax credit for wind power has had a devastating impact on investment in new wind generating capacity.

Ms. Floyd highlighted the fact that technological breakthroughs were accelerating, capital was flowing to companies and projects, and that customers were now taking action on clean fuels

It is this record that prompted Ms. Floyd to state that if Congress doesn't pass the tax credit legislation there will be a negative impact on the renewable technology industry. On the other hand, she was quick to point out that a number of other factors were behind the development of these fuels and they would continue to push the technologies along. In particular, she highlighted the fact that technological breakthroughs were accelerating, capital was flowing to companies and projects, and that customers were now taking action on clean fuels led by institutional investors demanding companies they are invested in to initiate climate change mitigation strategies.

Exhibit 13. Tax Credit Suspensions Hurt Market

Source: American Wind Energy Association

The developments of Friday clearly are energizing clean energy technology investors and participants. And we can assure you that a lot of that enthusiasm about the future for this industry was demonstrated at the Rice Alliance meeting.

Institutional Investors Assess Climate Change Risk

The belief is that carbon emissions will be more closely regulated around the world in the future giving companies that are actively managing their emissions today a competitive advantage

Last week the Carbon Disclosure Project (CDP) released the results of its survey of corporations and how they are managing climate risk in their business. The CDP is backed by hundreds of institutional investors who are using the results of these surveys to help manage their investment portfolios. The belief is that carbon emissions will be more closely regulated around the world in the future giving companies that are actively managing their emissions today a competitive advantage. In addition, these investors are trying to assess the risk of other factors such as future litigation over carbon emissions and the potential effects of climate change such as floods, storms and weather-related business impacts like droughts may have on companies' businesses.

Some 385 institutional investors who back the CDP are using the results to identify companies not adequately addressing the climate change issue. For example, the AXA Group (AXA-NYSE) said, "In terms of investment policy, companies which are ill-prepared for more stringent environmental regulation may face unexpected new expenses and decreased ability to sustain their returns and share price."

Nearly two-thirds of the respondents said they had an executive with overall responsibility for climate-change management

The CDP surveyed all the companies in the Global 500 and received a response from 383, or 77% of the group. Nearly two-thirds of the respondents said they had an executive with overall responsibility for climate-change management compared with half of respondents in 2007. Some companies are even starting to manage environmental risk at the board of director level. Most companies have put in place

The additional pressure from investors, coupled with the push by societies to improve their environments, is a new ingredient in the battle

some risk management measures to prepare for climate change. But companies also pointed out the challenge presented from the uncertainty about future regulation. Arcelor Mittal (MT-NYSE), stated, “There is significant risk in the lack of predictability in climate-change regulation.”

The most significant development is that other surveys of the corporate world suggest that companies are failing to adequately respond to the need to reduce emissions. However, that may be more the view of the people surveying companies, and especially as governments begin attempting to balance the cost of environmental initiatives for companies at a time economies are dealing with the shock of escalating energy prices and potential economic recessions. But the additional pressure from investors, coupled with the push by societies to improve their environments, is a new ingredient in the battle. As Tom Delay, chief executive of the UK government-funded Carbon Trust put it in *The Financial Times* recently, “Our findings show that we are not on the path to a low-carbon economy. This is something that will impact all investors – it will have a damaging effect on shareholder value. Shareholders should be demanding that the companies they invest in address these issues.”

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