ENERGY INVESTMENT BANKING

MUSINGS FROM THE OIL PATCH

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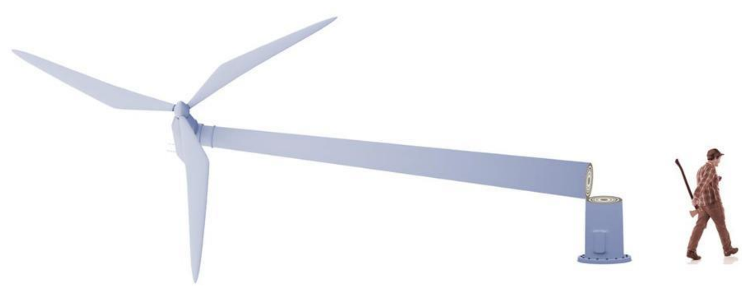
Note: *Musings from the Oil Patch reflects an eclectic collection of stories and analyses dealing with issues and developments within the energy industry that I feel have potentially significant implications for executives operating and planning for the future. The newsletter is published every two weeks, but periodically events and travel may alter that schedule. As always, I welcome your comments and observations.* Allen Brooks

The Promise Of Offshore Wind Takes Another Economic Hit

The question seldom examined is the true economics of offshore wind

The Scandinavian countries along with Great Britain have been hotbeds of offshore wind farm developments driven by their large environmental movements who oppose fossil fuel use with its carbon emissions. The argument in support for these offshore wind farms is economic – you can build larger turbines that would produce more power than turbines located onshore and because they are further removed from the population, their visual and health issues are annoying. The question seldom examined is the true economics of offshore wind. What we know is that the existence of European wind farms has contributed to a push by similar supporters in the United States eager to capitalize on the significant tax incentives available. Environmental scientists have seized on the theoretical output of these offshore wind turbines to demonstrate that if we just install enough of them we can power not only the population along the entire East Coast but even that of the entire United States, assuming we can get all of that power into the nation's electricity grid. Based on this promise, governors of several East Coast states have trumpeted the economic benefits for their states by becoming centers for the offshore wind industry.

Exhibit 1. Outlook For Offshore Wind In Massachusetts

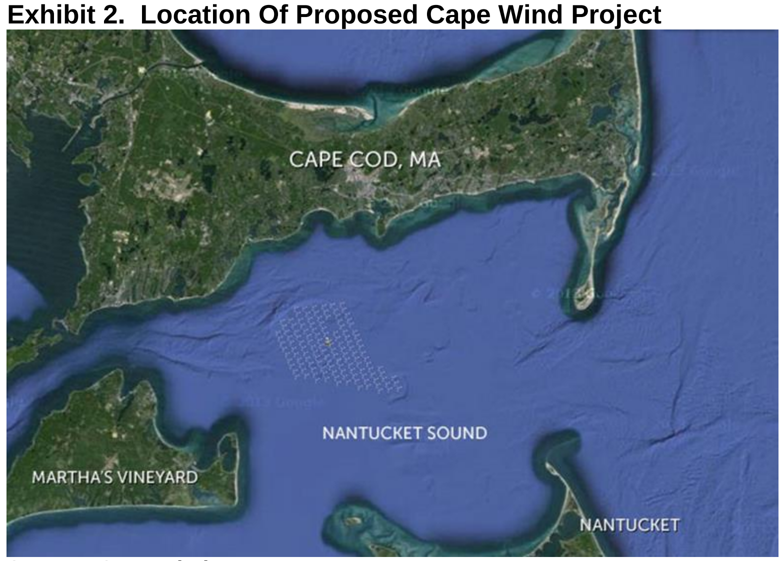


Source: ***Cape Cod Times***

These people were upset with the impact wind turbines will have on their Nantucket Sound views, but also about the project's safety

The most high profile offshore wind farm has been proposed by Cape Wind involving the installation of 130 wind turbines in a 24 square mile tract in Horseshoe Bay located in the state waters of Nantucket Sound offshore Massachusetts. The project began shortly after the turn of the current millennium, but its sponsors have been forced to engage in many battles with high-profile and wealthy homeowners on Cape Cod, Martha's Vineyard and Nantucket including the Kennedy family, several members of the Koch family along with Washington politicians and their friends and relatives. These people were upset with the impact wind turbines will have on their Nantucket Sound views, but also about the project's safety.

Exhibit 2. Location Of Proposed Cape Wind Project



Source: Cape Wind

The Town of Barnstable on Cape Cod opposed it as did the Wampanoag tribe in Massachusetts

Not only were there high-profile objectors to the wind farm, but everyday citizens were also opposed. For example, the Town of Barnstable on Cape Cod opposed it as did the Wampanoag tribe in Massachusetts who were concerned with the wind farm's turbines impact on their historical cultural traditions along with their impact on burial grounds that now lie under Horseshoe Bay. Another group that opposed the project and filed a lawsuit to stop it was a group of struggling fisherman from Martha's Vineyard who worried that the massive wind farm threatened their livelihood. The fishermen withdrew their suit when they found themselves unable to pay their lawyers at the same time Cape Wind offered them an undisclosed settlement.

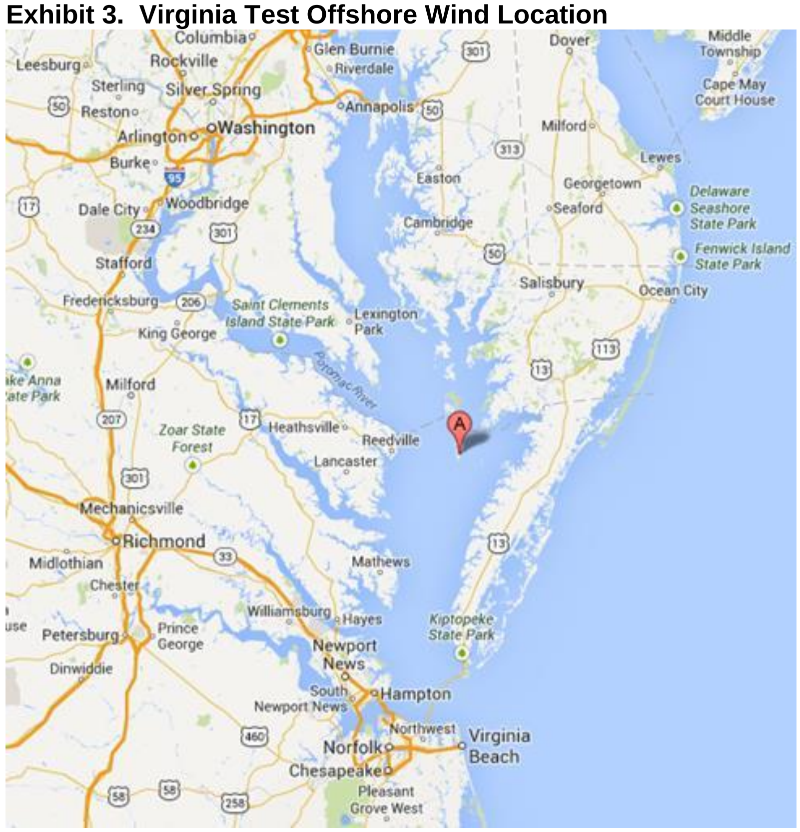
59% of respondents were "happy" that Cape Wind looked doomed

A local newspaper, the *Cape Cod Times*, conducted an online poll of its readers in January when the project appeared to be dying and found that 59% of respondents were "happy" that Cape Wind looked doomed. After fighting for nearly 14 years to advance the wind farm project, the sponsors were still unable to sell 22.5% of the projected power output, which probably contributed to them being unable to secure the financing necessary for the estimated $2.5 billion project. When Cape Wind failed to meet its financing deadline of December 31, 2014, the two utilities, National Grid (NGG-NYSE) and NStar Electric Company (NSARO-OTC) that had agreed to purchase the output cancelled their power purchase agreements for the expensive electricity.

Not only was the Cape Wind power more expensive, but the PPA's also carried a guaranteed 3.5% annual price increase for their 15 year lives

Under regulatory duress, the two utilities had been pressured into purchasing 77.5% of the wind farm's projected output at 18.7 cents per kilowatt-hour, or nearly twice what the utilities could have bought other clean, renewable-generated power from Maine and Eastern Canada. The utilities were barred from those purchases by a legislated mandate that the companies purchase clean, domestic power in order to fulfill the Massachusetts' renewable power mandate. Not only was the Cape Wind power more expensive, but the PPA's also carried a guaranteed 3.5% annual price increase for their 15 year lives.

Exhibit 3. Virginia Test Offshore Wind Location



Source: Dominion Resources

Further south in Virginia, an experimental offshore wind farm project was being highly touted by the state's governor in March as the first offshore wind farm to be located in federal waters off the East Coast. This claim was to distinguish the Virginia project from the Cape Wind and Deepwater Wind projects in state waters off the Massachusetts and Rhode Island coastlines. Like former Massachusetts Governor Deval Patrick and former Rhode Island Governor Donald Carcieri, Virginia Governor Terry McAuliffe touted the long-term opportunity for his state to become the center of the U.S. East Coast offshore wind industry. In April, at a luncheon in Norfolk, Virginia, Gov. McAuliffe announced that the U.S. Bureau of Ocean Energy Management had just awarded Dominion Resources, Inc. (D-NYSE) a 30-year lease in federal waters for the project. Within a month of touting the project, it was halted due to economics.

Virginia Governor Terry McAuliffe touted the long-term opportunity for his state to become the center of the U.S. East Coast offshore wind industry

Dominion had estimated that building the two 550-foot wind turbines would cost about $230 million. When the company received the only complete bid for the work, the cost was put at between $375 million and $400 million, according to the company. The wind farm project had been scheduled to be operational by 2017 and would produce 11-12 megawatts, or enough to power about 3,000 homes, but that timeline has now been pushed back to 2018, according to Bob Matthias, chairman of the Virginia Offshore Wind Development Authority, which has been helping to organize the pilot project, assuming it ever gets built.

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In 2013, Dominion won an auction to lease 113,000 acres of federal waters off Virginia Beach to build a wind farm of up to 200 turbines that officials said could power up to 700,000 homes, based on the nameplate output of the turbines. Since most wind turbines only operate about 30% of the time, the true capability of the proposed wind farm would be more like 210,000 homes, and then maybe for only part of each day. Dominion and the wind development authority are cooperating to form a task force to determine if the pilot project's development cost can be reduced. Without significant cost reductions for the pilot project, it is difficult to see how the larger wind farm project could move forward unless further government subsidies or mandates are enacted.

Dominion and the wind development authority are cooperating to form a task force to determine if the pilot project's development cost can be reduced

At this point in time, the only offshore wind project moving forward is Deepwater Wind's five-turbine project to be located offshore Block Island off the Rhode Island coast. This project has secured its financing, all its permits, including a power purchase agreement with the local utility (at well above market power rates and with a guaranteed annual price escalator), and is moving forward with building the foundations for installing the wind turbines to begin later this summer or fall. This project is a test for a possibly larger wind farm to be located in federal waters off Massachusetts where Deepwater Wind has secured a lease. The power from that wind farm, assuming it is built, could be sold to Long Island, which has a projected long-term power shortage, or to Massachusetts.

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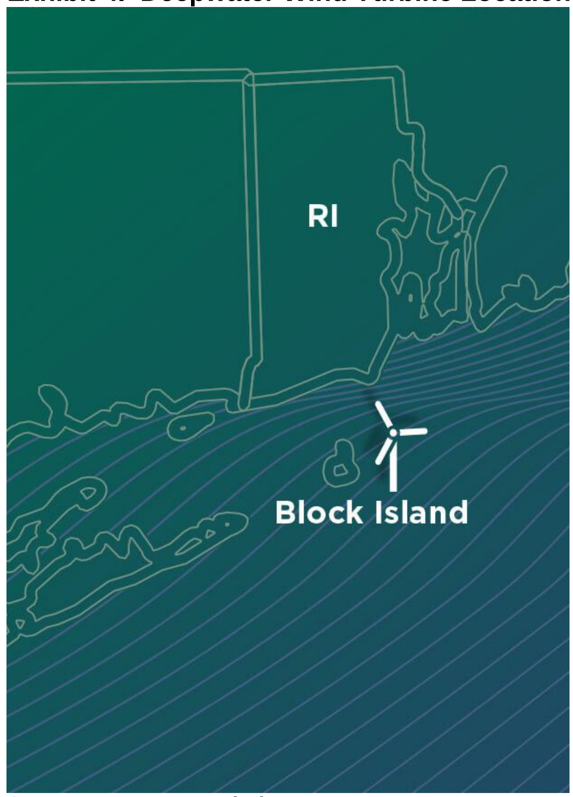
Exhibit 4. Deepwater Wind Turbine Location



Source: Deepwater Wind

State and local officials pushed forward with a $113 million facility for assembling wind turbines as part of the state's plan to become the center of the offshore wind industry

One of the big losers from the collapsing offshore wind effort is New Bedford, Massachusetts, where state and local officials pushed forward with a $113 million facility for assembling wind turbines as part of the state's plan to become the center of the offshore wind industry. That project was helped by a two-year, $4.5 million lease secured from Cape Wind last fall, but which has now been cancelled. The U.S. Bureau of Ocean Energy Management estimates that enough energy to power 1.4 million homes could be produced by wind turbines positioned in the Atlantic Ocean across a swath of 742,000 acres south of Martha's Vineyard. Also optimistic is the U.S. Energy Department that projects that the offshore wind business will employ more than half a million workers by 2050. The Energy Department projects about a quarter of the nation's offshore wind resources are located off the Massachusetts coast and New Bedford is the closest industrial port. Do these projections represent sand castles on the shore?

Speaking at the recent National Ocean Industries Association meeting in Washington, D.C., a representative from the investment sponsor of the Deepwater Wind Block Island project extolled the benefits of offshore wind and the success his group had achieved in getting this project into construction. In response to a question from the audience about the unsubsidized cost of offshore wind, he stated

He acknowledged that natural gas-generated power's cost was in the $40 per kilowatt range, or about a quarter of the cost of offshore wind

that it was about $170 per kilowatt. He acknowledged that natural gas-generated power's cost was in the $40 per kilowatt range, or about a quarter of the cost of offshore wind. That disparity is why the wind energy business lives or dies based on the existence of the federal (and some state) tax subsidy. It also benefits from state renewable fuel mandates for their utility companies. The more perplexing aspect of the offshore wind power business is the demand for guaranteed annual price escalation clauses in the power purchase agreements. Natural gas doesn't receive such a benefit, but its low cost and reduced carbon emissions are making it the fuel of choice for power generation nationwide.

The Petroleum Industry's New Scourge – Political Elections!

This change was monumental as the 44-year run of the Progressive Conservative Party was ended in a rout

Two weeks ago, Albertans awoke to a new reality – a change in the province's elected leadership. While many leaders often change as a result of elections, this change was monumental as the 44-year run of the Progressive Conservative Party was ended in a rout. The New Democratic Party (NDP), a left-center political party with strongly held environmental, anti-fossil fuel and anti-business governing views, surged into political control by seizing 53 of the 87 seats in the provincial legislature. As the Calgary Flames hockey team was mounting a furious come-from-behind rally to tie their Western Conference semi-final opponents, the Anaheim Ducks, before winning the game in overtime, the sea of red sweaters massed in the Saddledome stadium faced the prospect of the next four years being dominated by a sea of orange.

Maybe we should put that headline up with "Dewey Defeats Truman"

The surprise of the NDP victory was that the pollsters actually called the outcome. Such was not the case in Canada's motherland, Britain, where the pollsters and the media predicted a close election. In fact, *The Economist* in its May 2, 2015, issue, teased readers with a full-page ad promoting the magazine's upcoming coverage of the election with a headline heralding, "Next week Britain goes to the polls in its strangest, closest general election for many years." Maybe we should put that headline up with "Dewey Defeats Truman" that highlighted the first edition of the *Chicago Daily Tribune* newspaper on election night in November 1948.

The Scottish National Party won 56 of Scotland's 59 seats in the UK Parliament and increases the possibility of Scotland's secession from the British union

British Prime Minister David Cameron's Conservative Party successfully captured a majority of the seats in Parliament meaning it will not be forced to seek an alliance with a minority party in order to be able to form a new government. Both the Labour and Liberal parties were roundly defeated. Surprisingly, the Scottish National Party won 56 of Scotland's 59 seats in the UK Parliament and increases the possibility of Scotland's secession from the British union. Although settled by a recent referendum, the issue may return as a political touch-point. SNP leader Nicola Sturgeon has said the party will not reopen the independence issue, but movements often have lives of their own.

The best argument for why the Conservatives won, and won big, was that their economic message and stewardship for the past five years was favored by the voters who rejected Labour's promises to spend more on the welfare state by taxing the rich

Pundits who have been examining the voting data in Great Britain have been surprised by how overwhelming the vote was for the Conservatives. It seems that none of the politicians in the various parties nor the media, pollsters or even the great Nate Silver of Barack Obama's 2012 election victory fame called this election correctly. The best argument for why the Conservatives won, and won big, was that their economic message and stewardship for the past five years was favored by the voters who rejected Labour's promises to spend more on the welfare state by taxing the rich. There may be a message in the British election results for the new government in Alberta and for messaging by the political parties in the upcoming 2016 U.S. presidential election. Based on these recent election outcomes, it seems that economics and governing competence do matter with the majority of the voters.

The essence of Mr. Osborne's economic plan was to restrain the growth of the government and its welfare state and to restore financial discipline to the government

Recently, the Scottish economist and Harvard professor Niall Ferguson authored an op-ed in the *Financial Times* dissecting the economic issues as they played out in the campaign leading up to the British election. In his view, Labour's defeat was due to the Keynesian economists being wrong and George Osborne, the Conservative chancellor, being right. Throughout his term of office, Mr. Osborne had been attacked by both Labour and Liberal politicians but also repeatedly by *New York Times* economic columnist Paul Krugman who belittled the chancellor's economic plan. The essence of Mr. Osborne's economic plan was to restrain the growth of the government and its welfare state and to restore financial discipline to the government, which he saw as paramount for instilling confidence in British businessmen that would lead to increased investment, job growth and improving living standards.

After May 2010 business confidence never fell back to the levels seen during the 2008-2010 premiership of Labour leader Gordon Brown

As Mr. Ferguson pointed out, Mr. Krugman wrote in August 2011 denouncing "the 'delusions' of the chancellor whose 'experiment in austerity' was 'going really, really badly.'" Mr. Krugman went on to say that Mr. Osborne was needlessly worrying about the confidence of businessmen. In fact, after May 2010 business confidence never fell back to the levels seen during the 2008-2010 premiership of Labour leader Gordon Brown.

In 2014, the UK was the best performer among the G7 economies when it posted a real gross domestic product growth rate of 2.6%

Mr. Krugman also repeatedly predicted that Britain's austerity policy would lead to a recession, and potentially a worse outcome than experienced during the Great Depression. In April 2012, Mr. Krugman wrote that "Britain would 'continue on a death spiral of self-defeating austerity.'" It was, he lamented, a 'policy disaster' that would cause a double-dip recession and 'cripple the UK economy for many years to come.' So far, there has been no double-dip recession. In fact, in 2014, the UK was the best performer among the G7 economies when it posted a real gross domestic product growth rate of 2.6%. That performance compares with that of the last full year of the Labour government in 2009, when the economy chalked up a negative 4.3% contraction.

Equally impressive is that according to the International Monetary Fund, in 2014 the UK's general government deficit has been cut from 10% in 2009 to 5.7%

Mr. Ferguson also highlighted other economic statistics to demonstrate the success of Mr. Osborne's economic plan. Since May 2010, the UK economy has created 1.9 million jobs, the unemployment rate of 5.6% is half the unemployment rates of Italy and France, and average weekly earnings have increased 8%, and in the private sector, average weekly earnings are up over 10%. British inflation is 2% and falling. Equally impressive is that according to the International Monetary Fund, in 2014 the UK's general government deficit has been cut from 10% in 2009 to 5.7%. The government's structural deficit has fallen from 9.8% to 4.2% during the same time span, and the ratio of net public debt to GDP is similar to that of the United States.

Throughout the post-war era, the Labour Party has been associated with economic policies that led to either boosting inflation or unemployment, or both

This strong economic performance brought up an interesting conundrum for politicians and forecasters. Throughout the post-war era, the Labour Party has been associated with economic policies that led to either boosting inflation or unemployment, or both. Yet, three times in the past after periods of strong economic growth under Conservative prime ministers, the voters elected to pass the governing baton to Labour who promptly squandered the previous economic gains. This time, the voters rewarded the Conservatives for their economic performance.

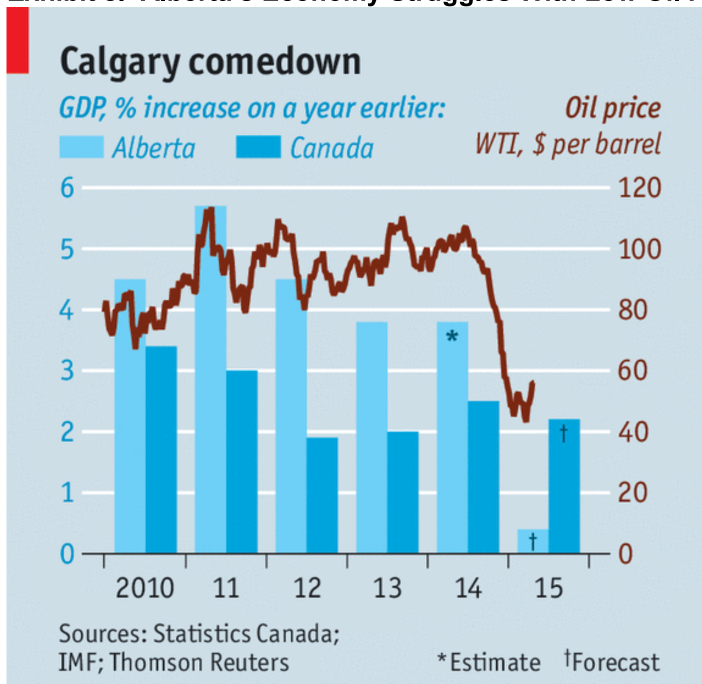
The country has moved away from coal and toward increased use of natural gas for generating electricity

Interesting questions are what, if any, changes might happen to Britain's energy and environmental policies. The country has moved away from coal and toward increased use of natural gas for generating electricity. At the same time, natural gas production from the UK North Sea sector has been declining and the country has begun resorting to liquefied natural gas imports. The green movement in Britain has been very strong and has pushed significant growth in wind energy for electricity, but that has created serious grid integrity issues. In fact, the country is short of sustainable power generation that it instituted a program to bring back into service previously shut down coal-fired power plants. We will be watching with interest if there are any energy policy changes given that Prime Minister Cameron has already begun appointing new leadership.

The drop in oil prices has resulted in Alberta now projecting deficits of almost C$5 (US$4.1) billion in this fiscal year and C$3 (US$2.4) billion next year

Do the election results in Britain offer any guidance for what may become of Alberta under its new government? The biggest problem is that the economic stewardship of the Progressive Conservative Party in the province was not particularly good. In fact, the government has run deficits for the past several years, despite high oil prices. The poor financial management is now being further damaged by the collapse in oil prices that have decimated the oil and gas sector forcing significant capital spending cuts by producing companies and massive layoffs of workers among the oilfield service companies. The drop in oil prices has resulted in Alberta now projecting deficits of almost C$5 (US$4.1) billion in this fiscal year and C$3 (US$2.4) billion next year. The response to these growing deficit projections has been proposals for higher taxes and user fees. While Alberta remains the only province without a sales tax, that idea has been floated as an alternative to higher income taxes.

Exhibit 5. Alberta's Economy Struggles With Low Oil Prices



Economist.com

Source: ***The Economist***

Based on the campaign statements by Rachel Notley, the incoming NDP premier, corporate tax rates will be raised from 10% to 12%

With the new government, the oil and gas industry is bracing for changes in the taxes and fees it pays. The industry's fear is driven by watching the actions of NDP politicians in other provinces. The four issues highlighted by articles in *The Globe and Mail* newspaper the day after the election that concern the energy business include: 1) corporate taxes; 2) pipelines; 3) royalty review; and 4) the fear factor. Based on the campaign statements by Rachel Notley, the incoming NDP premier, corporate tax rates will be raised from 10% to 12%. Of course, that will impact all industries in the provinces. This will put the province's tax rate on a par with energy-rich Saskatchewan and one percentage point above the rate for natural gas-rich British Columbia.

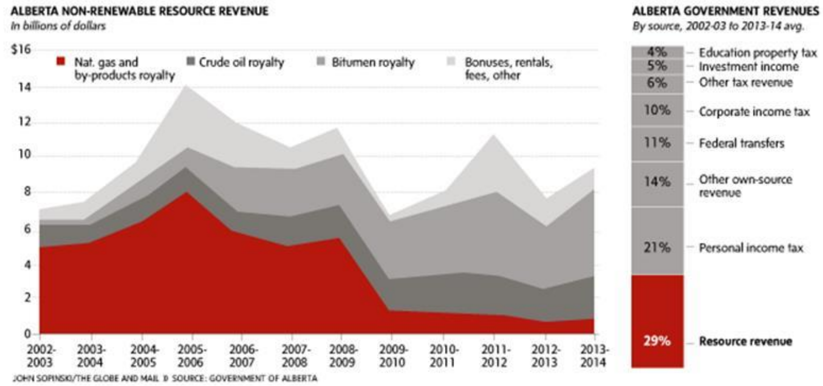
The reality is that government cheerleading probably hasn't accomplished much other than to make the projects more political

On the issue of private pipelines, Ms. Notley said she will not be a "cheerleader" for new projects such as TransCanada Corp.'s (TRP-NYSE) Keystone XL pipeline and Enbridge Inc.'s (ENB-NYSE) Northern Gateway pipeline. The reality is that government cheerleading probably hasn't accomplished much other than to make the projects more political. Pipeline executives suggest that by not actively promoting the lines, it may make it easier for them to propose projects that precede through regulatory approval processes without high levels of political attention.

There is history of royalty rates being raised in the past that damaged the profitability of resource companies in Alberta

Ms. Notley campaigned on re-examining the royalty structure in the province based on the belief that the resources were not being fairly assessed for the good of all the citizens. There is history of royalty rates being raised in the past that damaged the profitability of resource companies in Alberta, although the companies were also struggling at the time with falling natural gas prices. Expectations are that royalty rates will be raised. After the election, however, Ms. Notley said she wouldn't comment about specifics of any royalty review until after she had met with regulators and corporate leaders.

Exhibit 6. Alberta Depends On Fossil Fuel Revenues



Source: ***The Globe And Mail***

Until 2009-2010, natural gas and by-product royalties were the majority of the province's resource revenues

As shown in Exhibit 6 above, resource-related income has accounted for 29% of the province's income over the past decade. As the chart shows, the biggest source of revenues comes from royalties on crude oil, oil sands (bitumen) and other bonuses, rentals and fees. Until 2009-2010, natural gas and by-product royalties were the majority of the province's resource revenues, but that has changed in recent years such that that royalty category represents only a minor revenue source.

As The Globe and Mail described some of the new members, it said: "In their place will be a team that fits a wide cross-section of Albertans: energy workers, an electrician, a yoga teacher, university students and a grandmother, among others."

The fear factor reflects the greatest unknown, especially after 44 years of one-party rule. In addition to the overhaul of the government, concerns exist about the makeup of the new legislature. As *The Globe and Mail* described some of the new members, it said: "In their place will be a team that fits a wide cross-section of Albertans: energy workers, an electrician, a yoga teacher, university students and a grandmother, among others." It also pointed out that there will be a record number of women and Alberta's first three openly gay Legislative Assembly members. The average age of Alberta's Legislative Assembly has fallen from 52 to 36 years of age, which just happens to be the average age of the population in Alberta. Will younger legislators be more anti-energy?

Besides energy policy, Ms. Notley also raised the issue of the state of environmental regulations. With Alberta highly dependent on natural resources for its wealth and income, anything that might disturb that engine of growth, especially since the industry is dealing

Until more information is revealed, fear of the unknown will weigh heavily on the energy outlook in Alberta

with the collapse in oil and natural gas prices, has created serious concerns. Until more information is revealed, fear of the unknown will weigh heavily on the energy outlook in Alberta. That was clearly the response of the Toronto Stock Exchange that experienced a 3% fall in its oil and gas sector the day following the election after having already experienced a smaller loss on Election Day as the reality that the projections of an NDP win might prove accurate permeated investors' thinking.

Radical political shifts are usually associated with international markets and not "domestic" or "safe" ones

As the energy industry struggles to adjust after the collapse in oil prices, it faces the prospect of possible additional attacks on its profitability from political changes in Alberta and Britain. Radical political shifts are usually associated with international markets and not "domestic" or "safe" ones. As a result of these elections, any shifts in regulation and/or taxation may have broader ramifications for the energy industry than merely the impact on one aspect of a diversified portfolio of a small group of international oil companies operating in a particular country. What further changes to the energy landscape can 2015 bring?

A Retro Drive To Rhode Island Interrupted At McDonald's

The drive to our summer home in Rhode Island reverted to a plan we haven't used for a number of years – two long days of driving

Due to scheduling issues, the drive to our summer home in Rhode Island reverted to a plan we haven't used for a number of years – two long days of driving. We packed our car last Thursday evening after my return from Calgary and attending the Wood Mackenzie Lower 48 conference that afternoon. To meet various publishing deadlines, including this issue of the *Musings*, we elected the two-day drive, which was normal for us when my vacation time was limited to four weeks. We also considered a modified three-day plan with much earlier than normal stopping times so I could finish my writing.

While we were eating we discussed why this was the quickest (26 hours driving time) two-day trip ever - light traffic, virtually no traffic delays, almost no highway construction and no wait times at restaurants

Friday, at 5:35 AM central time, we were off. We stopped at 11:00 PM, eastern time, having lost an hour of time and having driven nearly 1,100 miles. Saturday morning we were off at 7:40 AM and arrived in Shady Harbor about 8:15 PM after stopping for dinner in Mystic, Connecticut. While we were eating we discussed why this was the quickest (26 hours driving time) two-day trip ever - light traffic, virtually no traffic delays, almost no highway construction and no wait times at restaurants. In fact, along several stretches of highway, the traffic was the lightest we have encountered in years, especially on I-95 from New York to Rhode Island.

It soon was on fire with flames coming from under the hood and the passenger compartment

Our Saturday trip would have been quicker had we not been trapped at McDonald's (MCD-NSYE). As we were finishing our quick lunch, my wife who was looking out the window said there was a problem. No kidding! A red SUV had turned onto the street leading to the McDonald's restaurant and was smoking. It soon was on fire with flames coming from under the hood and the passenger compartment. Quickly the flames were about five to six feet high

Exhibit 7. Old McDonald Had A Hot Time In West Virginia

Source: Allen Brooks

and large black, brown and gray clouds of smoke were heading skyward. The McDonald's staff poured out of the restaurant to watch after having called the fire department. A state highway patrolman arrived with a small fire extinguisher, making him look almost foolish, but he smartly stood aside and called for support.

There was no way anyone could get into or leave the McDonald's

With two fire trucks and a sheriff's patrol car blocking the intersection, there was no way anyone could get into or leave the McDonald's until the fire was out and cleanup was almost completely done. That probably cost us 40 minutes of our trip.

One reason why traffic was light the entire trip was there were many fewer trucks than in the past. There were so few, in fact, that we never saw a full rest area or truck stop at night. In past trips, we commented that with the new rules for the number of hours of rest required each day for over-the-road truck drivers, they now have to

In Tennessee, the state now has electric signboards along the Interstate (at least around Chattanooga and Knoxville) that show the status of parking at new truck rest stops the state is building and at the regular rest areas where trucks can park

stop for a full night, which was causing over-crowded situations at truck and rest stops that often saw trucks stacked up on the highway. Trucks even parked on the on and off ramps of the Interstates. This trip we saw none of these conditions, which certainly fits with the weak retail sales results so far this year. We did notice a new and interesting development related to this parking problem. In Tennessee, the state now has electric signboards along the Interstate (at least around Chattanooga and Knoxville) that show the status of parking at new truck rest stops the state is building and at the regular rest areas where trucks can park. We noticed signs saying "Open," meaning that the new parking facilities were now in operation. Likewise, we saw signs saying "Available" and "Full." We have to think this is a big help for truck drivers.

They almost all seemed to be heading south or west, as opposed to north, which would suggest snowbirds heading home after the winter

In contrast to recent trips, we saw a number of recreational vehicles, almost all pulling cars. They almost all seemed to be heading south or west, as opposed to north, which would suggest snowbirds heading home after the winter. A few weeks ago we were on I-95 in Georgia and all we saw were New York, New Jersey, Massachusetts and Maine car license plates signaling the summer migration home for snowbird seniors from the Northeast. On this trip, we couldn't discern any trend in who was going where.

Once off the Interstate, we thought we were on Westheimer at rush hour

The only place where we ran into any traffic was in Hattiesburg, Mississippi, where we stopped for lunch at noon on Friday. Once off the Interstate, we thought we were on Westheimer at rush hour. We have no idea where all the cars came from or where they were going. But at the McDonald's we stopped at, the parking lot was jammed but there was virtually no one eating in the restaurant. There certainly were more cars than the number of workers. We wondered if there was a parking spot shortage nearby.

It turns out the items we were asking for are listed by a different name on the register

None of the restaurants were full, even at the height of the lunch or dinner hours. We did learn, however, that you need to be careful how you order or you might get something different than you expected. Then again, maybe that is one of the problems McDonald's is confronting with its overly expansive menu. We asked for specific items from the menu hanging behind the counter only to have the wait-staff not be able to find the item on the cash register. It turns out the items we were asking for are listed by a different name on the register. So maybe that explains why orders wind up be wrong.

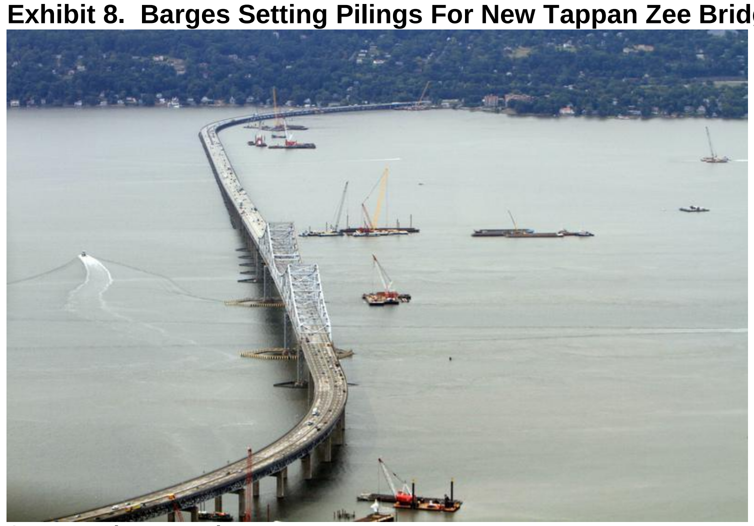
We saw many pedestal and mobile cranes along I-10 as we passed refineries and petrochemical plants

Construction cranes were particularly noticeable this trip. We saw many pedestal and mobile cranes along I-10 as we passed refineries and petrochemical plants. We saw them in Baytown, Lake Charles and Baton Rouge where the petroleum and chemical industries are building massive new plants. This is good news for part of the domestic energy business and at least for the labor market on the east side of Houston. We also saw an armada of barge and jackup mounted cranes working on building the new

Construction of the bridge started in 1952 and cost $60 million to build

Tappan Zee Bridge, something special for this writer as he remembers the opening of the original Tappan Zee Bridge on December 15, 1955. Construction of the bridge started in 1952 and cost $60 million to build, or $530 million in 2013 dollars. Before then, we had to use the Bear Mountain Bridge that was built in 1924. The new Tappan Zee Bridge will cost approximately $4 billion and will need four years to complete the first half in 2016, with final completion in 2017-2018.

Exhibit 8. Barges Setting Pilings For New Tappan Zee Bridge



Source: *The Journal News*

This may be the only state in the nation that prohibits drivers pumping their own gasoline

Our final observation was stopping for gasoline in New Jersey. This may be the only state in the nation that prohibits drivers pumping their own gasoline. Stations have to provide attendants to pump the gas – like it used to be in the old days. As we commented on this to the service station attendant, his comment was "You should try living here." He jokingly commented that I was allowed to wash my own

Exhibit 9. New Tappan Zee Bridge With Dual Spans

Source: New York State

windshield. He said the state was trying for lower insurance costs so they were planning on requiring all drivers to wear helmets. As we drove through New Jersey we noticed they were the only state with a sign saying "Report Aggressive Drivers – Use Your Cellular – Dial *77." Do you think driver aggression comes from too many rules and restrictions?

EVs Will Struggle To Find Customers Unless Gas Prices Rise

The AAA's final monthly gas price report for 2014 pointed out that if gasoline prices remained low for the balance of 2015, American consumers would save upwards of $75 billion

Does anyone remember all the claims about how much extra income the average American family would have due to gasoline prices collapsing in concert with falling crude oil prices. The American Automobile Association's (AAA) final monthly gas price report for 2014 pointed out that if gasoline prices remained low for the balance of 2015, American consumers would save upwards of $75 billion. The December report showed that Americans had already saved $14 billion from low gasoline prices during the final months of 2014. According to an AAA spokesperson, the gasoline pump price savings had contributed to better Christmas spending. As Avery Ash put it, "U.S. drivers ended the year on a high-note with gas prices plummeting over the last few months. Cheaper gas prices have helped to improve the economy by boosting both consumer confidence and disposable income."

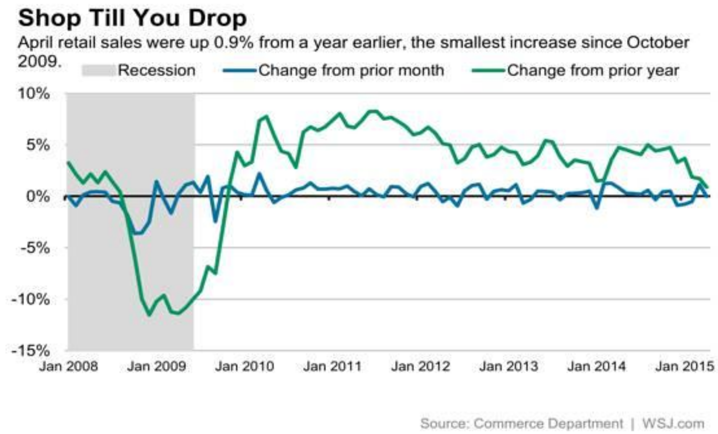
The data showed that seven out of 10 respondents were using the extra money to improve their personal balance sheets

According to a survey of 1,011 investors conducted by Wells Fargo & Company (WFC-NYSE) and Gallup in late January and early February, respondents reported that the drop in gasoline and oil prices is saving them an average of $108 a month. Retirees reportedly were saving an estimated $68 a month while non-retirees saved $117. An investor was defined as an adult in a household with $10,000 or more in savings and investments. The data showed that seven out of 10 respondents were using the extra money to improve their personal balance sheets according to a Wells Fargo retirement specialist. Over a third of respondents said they were using the extra money to pay down debts, while a third added to their savings. Only a quarter of the respondents were using the gas-pump savings for additional purchases.

Excluding gasoline and auto sales, the 0.2% April retail sales increase was well below the predicted 0.6% monthly gain

While repairing consumer balance sheets is a positive step, the lack of a significant percentage of the savings going into spending is producing trouble for the economy. Projections for 2015 were that the average American family would save anywhere from $550 to $750 from lower gasoline pump prices. The latest national sales figure for April showed them unchanged from March's figure and below analysts' expectation for a 0.2% monthly gain. Excluding gasoline and auto sales, the 0.2% April retail sales increase was well below the predicted 0.6% monthly gain. These results, following weak sales gains for all of the first quarter of 2015, attributed to the harsh winter weather, raise doubts about the pace of consumer spending for the balance of the year. Consumers clearly are devoting most of the gas-pump savings for repairing their balance sheets and only minimal amounts for new purchases.

Exhibit 10. Weak Retail Sales Reflect Saving Over Spending



Source: *The Wall Street Journal*

So far in 2015, about 22% of the people who have traded in their hybrids and electric vehicles (EVs) have purchased a new SUV

In a contrasting view, low gasoline prices have caused consumers to step up buying sport utility vehicles (SUV) with low mile-per-gallon fuel efficiency ratings. An interesting statistic recently reported by car-buying service *Edmunds.com* is that so far in 2015, about 22% of the people who have traded in their hybrids and electric vehicles (EVs) have purchased a new SUV. This is an increase from the 18.8% who bought SUVs last year, and it is nearly double the 11.9% rate of three years ago.

According to *Edmunds.com*, never before have loyalty rates for alternative fuel vehicles fallen below 50%

Only 45% of this year's hybrid and EV trade-ins have opted to purchase another alternative fuel vehicle, down from just over 60% in 2012. According to *Edmunds.com*, never before have loyalty rates for alternative fuel vehicles fallen below 50%. As *Edmunds.com* Director of Industry Analysis Jessica Caldwell put it, "For better or worse, it looks like many hybrid and EV owners are driven more by financial motives rather than a responsibility to the environment." She went on to say that three years ago, when gasoline pump prices were near record highs, it was a lot easier to rationalize paying the price-premium associated with alternative fuel vehicles. Now, however, with gasoline pump prices as low as they are, the math just doesn't make a very compelling case for alternative fuel vehicles.

At the peak average national gas price of $4.67 a gallon in October 2012, it would take five years to break even

To underscore that point, *Edmunds.com* calculated that at the peak average national gas price of $4.67 a gallon in October 2012, it would take five years to break even on the $3,770 price difference between a Toyota Camry LE Hybrid ($28,230) and a Toyota Camry LE ($24,460). At a national average gas price of $2.27 a gallon, roughly equal to current prices, it would take twice as much time (10.5 years) to close that same price gap.

Reflecting on how the automobile market changes with different oil price levels, the *Edmunds.com's* data shows that alternative vehicle sales have continued to slide in recent quarters. EVs and hybrids

EVs and hybrids accounted for just 2.7% of all new car sales in the first quarter of 2015, down from 3.3 % during the same period last year when gasoline prices were higher

accounted for just 2.7% of all new car sales in the first quarter of 2015, down from 3.3 % during the same period last year when gasoline prices were higher. At the same time, SUVs increased their market share from 31.8% in the first quarter of 2014 to 34.2% in the first quarter of 2015. The shift in buying patterns in response to lower gasoline prices has derailed President Barack Obama's 2011 pledge that there would be one million EVs on the road in 2015 as today we are only at about 300,000 EVs. The original goal is being delayed as gasoline prices have retreated in recent years and EV technology has yet to overcome buyers' range anxiety, or running out of battery charge before completing trips and a lack of charging stations.

In the future, auto buyers may be confronted with alternative fuel vehicles as their only choices as manufacturers strive to avoid fines from failing to meet corporate average fuel efficiency standards

What we know is that EVs and hybrids will become more important in the future for enabling automobile manufacturers to meet the higher fuel-efficiency guidelines the industry agreed to with the Obama administration. The workings of that new efficiency standard allows automobile manufacturers to count every EV sold as the equivalent of two internal combustion engine (ICE) powered vehicles while hybrids were accorded a ratio of 1.5 ICE vehicles. While auto manufacturers continue to improve ICE vehicles via better aerodynamic design, reducing vehicle weight and boosting engine performance, the easiest way to meet the goal is to sell more alternative fuel vehicles. In the future, auto buyers may be confronted with alternative fuel vehicles as their only choices as manufacturers strive to avoid fines from failing to meet corporate average fuel efficiency standards.

China expects as many as 40 new EV models go on sale in the country this year, triple the number of new EV models available two years ago

It is possible that what is happening in China with respect to EVs and hybrid vehicles is a precursor of how America's vehicle sales and distribution models will work. In response to air pollution and vehicle congestion in major cities, China has begun a strategic initiative to build EVs and is encouraging foreign manufacturers and their partners to join the effort. China expects as many as 40 new EV models go on sale in the country this year, triple the number of new EV models available two years ago. As described in an article in *Business Week*, Toyota Motors (TM-NYSE) will only market an EV in China as it is committed to hydrogen-powered vehicles as a better alternative to EVs elsewhere. In fact, its dedication to hydrogen-powered vehicles is why Toyota ended its all-electric Rav4 EV crossover partnership with Tesla Motors, Inc. (TSLA-Nasdaq).

Since China controls the permitting of new manufacturing facilities, automakers are almost forced to embrace EVs if they want to have plants capable of manufacturing new vehicles

China has new emission guidelines that call for a 28% improvement in average per vehicle fuel consumption by 2020, something that likely requires manufacturers to embrace plug-in EVs. Since China controls the permitting of new manufacturing facilities, automakers are almost forced to embrace EVs if they want to have plants capable of manufacturing new vehicles. According to an analyst with A.T. Kearney in Shanghai, China, all the new EV models coming to market may enable the industry to get 1-2 million EVs and other new energy vehicles on the country's roads by 2020. That achievement, however, will still fall well short of the government's target of five million EVs being on the road.

The fact these clean-fuel vehicles are now being traded in for conventionally-fueled vehicles at an accelerating rate suggests that economics are clearly trumping environmental considerations

While China may be the model, the technology still is short of delivering a reasonably-priced EV with a traveling range similar to that of an ICE vehicle, or roughly 200 miles on a single charge. There is also the issue with fast charging of EVs, as drivers will measure charging times against the length of time they must spend at the gas pump filling up their ICE vehicle. Environmental concerns are an important consideration for EVs, but they were largely bought by people more interested in impressing their neighbors with their statement about environmental concern than their economics. The fact these clean-fuel vehicles are now being traded in for conventionally-fueled vehicles at an accelerating rate suggests that economics are clearly trumping environmental considerations. Whether this is a good thing or not remains to be seen, but the fact it is happening tells us how powerful the pocketbook is for consumer purchasing decisions. It also tells us that auto manufacturers need to address the shortcomings of EVs and hybrids if they want them to become a competitive auto market segment. Then again, those manufacturers may just elect to let the draconian U.S. fuel-efficiency standards force consumers to buy these less desirable vehicles.

The Conundrum Of Oil Price Rally For Traders And Managers

The oil and gas price rally is also contributing to better stock market prices for energy companies despite them reporting poor financial results and outlooks that reflect weak fundamentals

Crude oil prices have staged an impressive rally since the end of March, climbing 27% through May 13th. Natural gas prices have also rallied by 15% over the past month. The rise in oil and gas prices reflects traders' expectations that the decline in the drilling rig count is moderating the growth rate of production and will eventually result in its decline, while at the same time contribute to higher consumption. The oil and gas price rally is also contributing to better stock market prices for energy companies despite them reporting poor financial results and outlooks that reflect weak fundamentals. So should energy company managers accept the view of the commodity and stock markets that the worst for their business is over and that they should begin returning to work? Or should these managers continue to examine their business processes and determine how they can reduce operating costs on a sustainable basis in order to boost future return on capital measures? Therein lays the industry's conundrum.

A recent analyst's review of the first quarter financial results of Exxon and Chevron estimated that their upstream operations lost about $2 per barrel produced

A recent analyst's review of the first quarter financial results of Exxon Mobil Corp. (XOM-NYSE) and Chevron Corp. (CVX-NYSE) estimated that their upstream operations lost about $2 per barrel produced as opposed to earning upwards of $15 a barrel in 2013. Fortunately, these two companies have widely diversified operations – upstream and downstream – with profit profiles that mirror each other, meaning that when one segment is doing well, it is offsetting the poor performance of the other sector, i.e., the perfect hedge.

Exhibit 11. E&P Business Failed To Generate FCF In 2014

Stock Ticker	2014 FCF	2013 FCF	FCF Change	CF/CE	Debt/Equity	2014 DEBT	2013 DEBT	Debt Change
APC	-$1,042	$1,167	-$2,209	0.89	0.69	$15,092	$13,565	$1,527
AR	-$611	-$521	-$90	0.62	0.96	$4,363	$2,079	$2,284
BBG	-$323	-$182	-$140	0.45	1.15	$829	$984	-$155
CHK	-$673	-$1,962	$1,289	0.87	0.71	$11,555	$12,904	-$1,349
COG	-$243	-$170	-$73	0.84	0.50	$1,752	$1,147	$605
CRK	-$234	-$262	$28	0.63	1.03	$1,070	$799	$272
DVN	-$1,007	-$1,322	$315	0.86	0.58	$11,262	$12,022	-$760
ECA	$141	-$423	$564	1.06	0.98	$7,813	$7,668	$145
GDP	-$201	-$180	-$21	0.38	1.79	$569	$486	$83
KWK	-$116	-$153	$37	0.04	-1.85	$2,038	$1,989	$49
NBL	-$1,365	-$1,010	-$355	0.72	0.55	$6,241	$4,887	$1,354
PQ	$3	-$241	$243	1.02	3.53	$425	$425	$0
QEP	-$1,184	-$411	-$773	0.57	1.18	$2,273	$3,107	-$834
RRC	-$470	-$554	$84	0.67	0.94	$3,073	$3,141	-$68
SD	-$951	-$645	-$305	0.40	1.95	$3,195	$3,195	$1
SGY	-$536	-$76	-$460	0.43	0.85	$1,041	$1,027	$14
SM	-$1,063	-$277	-$786	0.58	0.92	$2,366	$1,600	$766
SWN	-$5,006	-$344	-$4,662	0.32	0.45	$6,967	$1,950	$5,017
TLM	-$242	-$696	$454	0.89	0.71	$5,274	$5,540	-$266
UPL	$100	$96	$4	1.16	-19.73	$3,378	$2,470	$908
XCO	-$30	$30	-$60	0.92	3.81	$1,447	$1,891	-$444
XEC	-$489	-$248	-$241	0.77	0.35	$1,500	$924	$576
TOTALS	**-$15,541**	**-$8,383**	**-$7,159**	**0.68**	**1.18**	**$93,522**	**$83,798**	**$9,724**

Source: Art Berman

For a few companies, their ability to overcome the high financial leverage on their balance sheets has proven too great, sending them to the bankruptcy courts for protection and help in navigating a path out of their financial "hells"

In the exploration and production sector, the challenge of generating profits in a low commodity price environment continue pressuring operating companies, something that has been ongoing since the American shale revolution started a decade ago. For many companies, forget producing profits, as they continue to struggle merely to generate free cash flow in a low price and high capital spending environment. For a few companies, their ability to overcome the high financial leverage on their balance sheets has proven too great, sending them to the bankruptcy courts for protection and help in navigating a path out of their financial "hells." The recent commodity price rally is giving some of these highly levered companies the opportunity to hedge future production at better prices and possibly to secure debt and/or equity infusions to keep them going.

The impact of these private equity investment "opportunities" may be that it prolongs the sector's clean-up phase

According to a survey by law firm Haynes & Boone, it found that two-thirds of E&P borrowers are likely to see lending lines based on their proven reserves to be lowered this year. The firm suggested that some of these E&P companies are resorting to esoteric financing in the form of second-lien loans provided by private equity firms, i.e., the shadow banking industry. The impact of these private equity investment "opportunities" may be that it prolongs the sector's clean-up phase by prolonging marginal producers and their output, when flushing them out of the system might be the quickest way to restoring profitable production discipline.

The recent merger agreement between Royal Dutch Shell (RDS.A-NYSE) and BG Group (BG-NYSE) and now the deal between Noble Energy, Inc. (NBL-NYSE) and Rosetta Resources, Inc. (ROSE-Nasdaq) has set investors' hearts aflutter with thoughts that we are on the cusp of a restructuring of the energy business through merger and buyout activity. If that is happening, then investors should be focusing on picking the right targets and capturing whatever

We, and others, believe that an increase in merger and acquisition activity will occur, but not right now

premiums are offered in take-out deals. We, and others, believe that an increase in merger and acquisition activity will occur, but not right now. It is too soon for buyers to have high comfort levels that the bottom in commodity prices has been established, let alone that they have fully completed their own operational streamlining and are positioned to take on the assets and liabilities of another company.

They reflect the broader rethinking of how the business should operate being undertaken by managements

We were intrigued with observations of Wall Street oilfield service analysts who attended the recent Offshore Technology Conference of future visions for the energy business as expressed by executives. While some of the comments were directed specifically at the offshore oil and gas business, they reflect the broader rethinking of how the business should operate being undertaken by managements. No area of their organization can escape examination about how to work more efficiently and profitably.

This is the quickest way to overcome any "not invented here" bias and potentially to capture new and innovative approaches to addressing production challenges

According to Credit Suisse analyst Jim Wicklund, Chevron Vice President of Deepwater Exploration Projects Stephen Thurston discussed how his company was opening up its project design process to other inputs. Specifically, for deepwater projects, the company will allow service providers to submit dual bids in response to a request for proposal. One proposal would be based on the specific design plan proposed by Chevron while the other proposal would be based on the service company's own design plan. This is the quickest way to overcome any "not invented here" bias and potentially to capture new and innovative approaches to addressing production challenges. How well this process works will depend on the willingness of management to discard the design plan of in-house engineers and technicians. The risk is that the company's staff becomes demoralized by those rejections. Historically, service company technical staffs work (negotiate) with the oil company's staff over possible design modifications to the original company plan before the bid is submitted.

We think it is instructive to look back in history to the fact that oil companies at one time largely maintained their own drilling rig fleets in order to ensure control over the drilling process

If the new approach proves successful, one could question whether it might lead to a greater outsourcing of design planning to service companies and eventually a reduction of the in-house technical staffs of oil companies. Might it happen? We think it is instructive to look back in history to the fact that oil companies at one time largely maintained their own drilling rig fleets in order to ensure control over the drilling process. The industry abandoned that model with Exxon being the last major oil company to close its drilling operations in the late 1970s. On the other hand, we have seen a handful of E&P companies continue to own and operate drilling rigs for their shale operations as a way to push alternative approaches to drilling wells and for benchmarking the performance of their drilling contractor providers. Those who operate their own rigs praise the benefits.

Will Chevron's new approach lead to a closer working relationship with its service providers – possibly shifting away from adversarial relationships in favor of partnering approaches? The latter

The latter arrangement lends itself to more efficient operations

arrangement lends itself to more efficient operations and potentially better profit margins, while the adversarial approach tends toward lower profit margins when surplus equipment vies for jobs and oil companies seek the lowest price possible for their work.

The industry might go back to work sooner than currently envisioned producing a quicker reversal of the anticipated production decline and ultimately lower future oil and gas prices

If the traders are correct and oil prices have begun their climb to higher levels, will oil company managers continue examining and overhauling their businesses and operational processes? If managers believe this restructuring work needs to continue to ensure better long-term returns from their capital investments, then we would not expect much of an activity increase in response to the current higher oil and gas prices. It is possible, however, that smaller E&P players who dominate the shale activity in North America will be less concerned about restructuring their operations and more focused on making sure they have the capital available to invest in new wells and output. Whether these managers will link improved business processes to higher future returns on capital employed remains unknown. The response, or lack thereof, by industry managers to restructuring efforts may produce a conundrum for commodity traders. The industry might go back to work sooner than currently envisioned producing a quicker reversal of the anticipated production decline and ultimately lower future oil and gas prices.

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