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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

## Does BG/Cheniere Deal Signal New Energy Market For U.S.?

**This agreement substantiates the message of the recent NPC study on how to prudently develop the abundant oil and natural gas resources of North America**

On October 26, 2011, the natural gas market in the United States underwent a significant transformation with the announcement of an agreement between the BG Group (BG-NYSE) and Cheniere Energy (LNG-NYSE) for the purchase of 3.5 million tons per year (mmt/y) of liquefied natural gas (LNG) from Sabine Pass Liquefaction LLC, a wholly-owned subsidiary of Cheniere Energy Partners LP (CQP-NYSE), the master limited partnership for which Cheniere Energy is the general partner. This agreement substantiates the message of the recent National Petroleum Council study on how to prudently develop the abundant oil and natural gas resources of North America. That message was presented succinctly in the letter of transmittal of the NPC report to the Secretary of Energy Stephen Chu. It was the first of the four major conclusions of the study.

"First, the potential supply of North American natural gas is far bigger than previously thought. It is now understood that the natural gas resource base is enormous and that its development, if carried out in acceptable ways, is potentially transformative for the American economy, energy security, and the environment, including reduction of carbon and other emissions. These resources could meet high projections of demand."

**"Three factors – abundant domestic supply, low prices and anticipated flat natural gas demand through 2035 – have turned the focus to exports."**

The outlook for North America's natural gas supply and demand is extremely positive according to the authors of the NPC report. As the report stated in its discussion of the history and prospects for the domestic LNG market, "Three factors – abundant domestic supply, low prices and anticipated flat natural gas demand through 2035 – have turned the focus to exports." In less than a decade, the view of the LNG business and the outlook for domestic oil and gas production has been totally turned upside down. From struggling to

**LNG is the vehicle for tapping global gas demand**

boost LNG imports to meeting falling supply and stable demand, North America has become glutted with gas and is seeking new markets both home and abroad. LNG is the vehicle for tapping global gas demand, and cheap domestic natural gas is the ticket to capture a portion of that growing market.

To that end, the NPC report discussed the three major LNG export terminals under consideration at the present time. One is the Sabine plant that is a party to the BG export contract. Another is the Freeport LNG terminal that has applied for an export license, while the third is the Kitimat LNG terminal proposed to be built off the coast of British Columbia with the intent to export shale gas production from Canada's Horn River play in Northeast British Columbia.

**The project has a strong competitive position in the global LNG market**

It is instructive to analyze the terms of this agreement between BG and Cheniere as they will play a role in both near-term profitability and long-term risk associated with the contract. Deutsche Bank's energy group issued a report shortly after the $8 billion 20-year contract was announced that focused on the agreement's terms. It showed in detail how the project has a strong competitive position in the global LNG market at the present time, although recognizing that the market could change between now and when the terminal will be in a position to begin exporting LNG, likely in 2015. We'll come back to that assessment a little later in this article.

Cheniere has requested approval from the Federal Energy Regulatory Commission (FERC) to build a gas liquefaction facility at its Sabine River re-gasification terminal in order to be able to export LNG. The existing terminal is pictured in Exhibit 1, showing that it has two docks and five storage tanks. The company points out that a typical LNG carrier can offload its cargo in 10-12 hours while a Qmax carrier needs about 18 hours. The facilities have been constructed so that two tankers can offload at the same time, which means that the terminal can handle up to 400 tankers per year.

**Exhibit 1. Sabine LNG Receiving Terminal**


**Source: Cheniere Energy**

Cheniere has proposed a two-phase development of its liquefaction

facilities. They are planned to be located adjacent to the current storage tanks. Phase one of the development will include installation of the equipment to cool the natural gas to a liquid, which would then be stored in one of the existing tanks from where it will be pumped to a tanker. The first phase will consist of two cooling trains capable of handling approximately one billion cubic feet per day (Bcf/d) of gas, or roughly 8 mmt/y of LNG. Even though the facility would be bi-lateral, Cheniere says that the number of tankers coming and going to the terminal would not exceed the 400 number already anticipated.

**According to media reports Cheniere is discussing additional LNG sales to parties in Asia**

So far, Cheniere has received approval for the liquefaction facility from the Department of Energy but still needs approval from FERC. It is likely that having contracts in place for the facility's output will help sway FERC to approve the plan. According to media reports Cheniere is discussing additional LNG sales to parties in Asia. The company has also said that it would entertain selling LNG to Jamaica, Puerto Rico and/or the Dominican Republic.

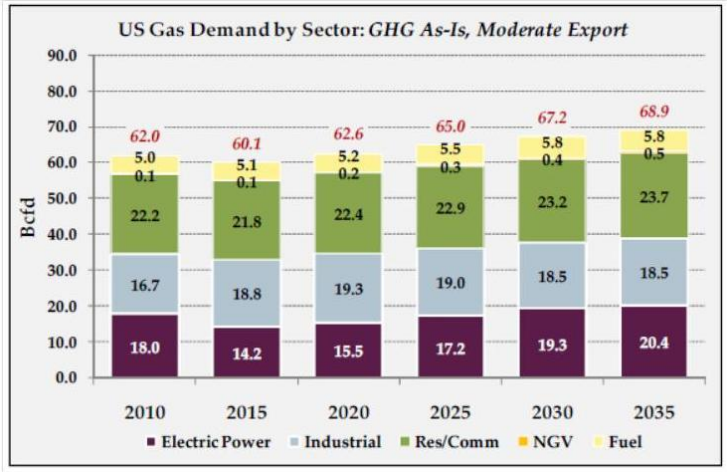
**This resource base is estimated to be so large that not only can domestic natural gas consumption grow, but it is thought gas can be exported as LNG without pushing gas prices up**

The critical ingredient for LNG exports is the availability of cheap domestic natural gas, which currently exists due to the rapid growth of shale gas production and the continued strong shale drilling activity by the industry. The attraction of shale gas has been enhanced by the ever-growing estimates of the potential natural gas resources in the United States and Canada. This resource base is estimated to be so large that not only can domestic natural gas consumption grow, but it is thought gas can be exported as LNG without pushing gas prices up. That is the message of the NPC study, along with other research reports such as the one issued earlier this year by the Massachusetts Institute of Technology. At the time of Cheniere's liquefaction facility application to the DOE and FERC, the company provided two studies showing that substantial gas resources existed that could be developed at a low cost.

One of the reports on the natural gas market and the impact of the LNG volumes on gas prices was prepared by Navigant Consulting, which ran multiple scenarios using its proprietary natural gas market model. The baseline scenario utilized the gas supply, demand and price outlook from the Energy Information Administration's 2010 Annual Energy Outlook. In that outlook, the EIA assumed that only the current laws regulating greenhouse gas emissions, which impact the electric power generation market and likely boost gas demand continue throughout the forecast period (*GHG-As Is*). The EIA also assumed that the demand for natural gas to power vehicles only grows to 0.5 Bcf/d by 2035. Based on these assumptions, Navigant utilized its model to calibrate the expected price impact from the additional LNG demand to be exported, which in this case just happened to be equal to the 1 Bcf/d represented by the BG contract.

The Navigant study showed that there would be a minimal impact on overall U.S. gas demand from the incremental LNG demand, and

**Exhibit 2. Gas Demand With Moderate LNG Export**

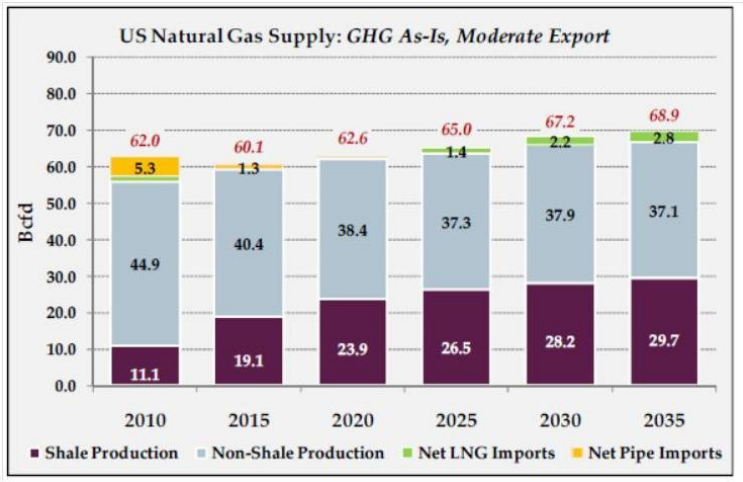



**Source: Navigant Consulting**

**The additional 1 Bcf/d of LNG exported from Sabine Pass backs off about 0.9 Bcf/d of net LNG imports**

that it would be seen in the Fuel category since there would be some additional consumption compared to the EIA's base case model due to the operation of the liquefaction facility and the exported gas. When it comes to supply, the additional 1 Bcf/d of LNG exported from Sabine Pass backs off about 0.9 Bcf/d of net LNG imports. That additional supply is obtained by domestic production increasing 0.7 Bcf/d while net pipeline imports rise by 0.2 Bcf/d. Again, none of these shifts in supply are momentous for the gas market.

**Exhibit 3. Gas Supply With LNG Impact**




**Source: Navigant Consulting**

**1 Bcf/d of gas demand will boost spot gas prices by $0.20/Mcf in 2015**

The net result of the shift in demand and supply is that Henry Hub natural gas prices will increase slightly. Navigant estimates that the net impact of the additional 1 Bcf/d of gas demand will be to boost spot gas prices by $0.20 per thousand cubic feet (Mcf) in 2015, the projected start of the LNG exporting activity. That cost impact is

projected to rise to $0.23/Mcf by 2035, although the spread actually declines during most of the intervening years. That pricing pattern reflects the EIA's current view that natural gas supply will exceed demand for most of the period, which acts to depress gas prices.

**Exhibit 4. LNG Export Impact On Gas Prices**

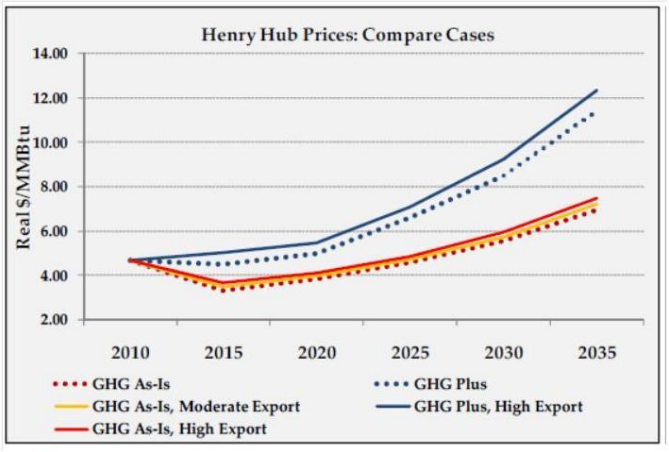
| Year | Base As-Is Price | As-Is, Moderate Price | *Moderate* less *Base As-Is* |
|---|---|---|---|
| 2010 | 4.68 | 4.68 | 0.00 |
| 2015 | 3.29 | 3.49 | 0.20 |
| 2020 | 3.85 | 3.98 | 0.13 |
| 2025 | 4.69 | 4.72 | 0.13 |
| 2030 | 5.55 | 5.74 | 0.19 |
| 2035 | 6.97 | 7.20 | 0.23 |

**Source: Navigant Consulting**

**The model's results suggest that natural gas prices will rise faster and to a significantly higher level than forecast under the EIA assumptions**

A modification of the Navigant export case was designed to assess the market reaction to a greater volume of exports – in this case a doubling of the volume from one Bcf/d to two Bcf/d. Under that scenario, the additional gas demand will boost spot prices by $0.23 in 2015 and $0.49 in 2035. Navigant also prepared a case in which it assumes there will be higher gas demand in order to meet tighter greenhouse gas emission reduction targets due to stricter environmental regulations coupled with vehicular related gas demand increasing to 4.7 Bcf/d by 2035. The model's results suggest that natural gas prices will rise faster and to a significantly higher level than forecast under the EIA assumptions. All the projections – the EIA base case and the various LNG export cases – are shown in Exhibit 5. These price scenarios become quite interesting when compared with the currently projected economics of LNG exporting as analyzed by Deutsche Bank.

**Exhibit 5. LNG Impact On Gas Prices**




**Source: Navigant Consulting**

Under the terms of the BG contract, Cheniere is acquiring the gas for export under spot purchases as opposed to entering into long-term supply contracts. In its DOE and FERC filings, Cheniere said that it expects to source gas from South, East and Gulf Coast Texas onshore fields, gas fields in the Permian, Anadarko and Hugoton basins and unconventional gas fields in the Barnett, Haynesville, Eagle Ford, Fayetteville, Woodford and Bossier plays, or essentially everywhere but the Marcellus , the Rockies and the West Coast.

**U.S. LNG has a $2.10 per cost advantage against the forward price curve in Asia and a $1.36 advantage in Europe**

The contract calls for BG to pay 115% of the Henry Hub spot price for the gas delivered to the liquefaction facility and pay Cheniere a fixed fee of $2.25/Mcf to liquefy it and load it onboard the tanker. When Deutsche Bank prepared its analysis of the competitive position of U.S. LNG in the world market, it found this contract to be highly competitive versus forward LNG prices in the Asian market and modestly competitive in the European market. As shown in Exhibits 6 and 7, based on current 2015 natural gas futures prices of $5.40/Mcf plus the markup and fee and all other associated shipping and distribution costs, U.S. LNG has a $2.10 per cost advantage against the forward price curve in Asia and a $1.36 advantage in Europe. These advantages, however, would be reduced by any possible impact on futures price from the additional demand. The $0.20/Mcf price rise predicted by Navigant for 1 Bcf/d of incremental gas demand would squeeze the currently estimated Asian cost advantage by roughly 10%, while it would cut the European margin by nearly 15%.

**Exhibit 6. U.S. LNG v Asian Market**

| Pricing element | Cost ($/mmbtu) |
|---|---|
| Henry Hub Jan-15 | $5.40 |
| 15% + $2.25 | $3.06 |
| **FOB Cost** | **$8.46** |
| Vessel charter | $0.83 |
| Fuel | $1.06 |
| Boiloff | $0.16 |
| Panama Canal crossing | $0.07 |
| Regasification terminal tariff | $0.35 |
| **Delivered Cost** | **$10.92** |
| Japan LNG Contract (Forward curve) | $13.02 |
| Japan LNG Contract (DB forecast) | $14.75 |

*Source: Bloomberg Finance LP, Deutsche Bank*

**Source: Deutsche Bank**

**Exhibit 7. U.S. LNG v Europe Market**

| Pricing element | Cost ($/mmbtu) |
|---|---|
| Henry Hub Jan-15 | $5.40 |
| 15% + $2.25 | $3.06 |
| **FOB Cost** | **$8.46** |
| Vessel charter | $0.35 |
| Fuel | $0.44 |
| Boiloff | $0.07 |
| Regasification terminal tariff | $0.35 |
| **Delivered Cost** | **$9.67** |
| NBP Cal-14 (Forward curve) | $11.03 |
| NBP Cal-14 (DB forecast) | $15.00 |

*Source: Bloomberg Finance LP, Deutsche Bank*

**Source: Deutsche Bank**

As there doesn't appear to be any take-or-pay contract provisions in the BG agreement, as Henry Hub prices rise and the cost advantage for U.S. LNG erodes in global markets, the volume of natural gas to be exported is likely to decline. That would mean that BG is protected from its LNG contract becoming a money loser while Cheniere will have to worry about the cost of its facility as export volumes shrink.

**Cheniere will receive roughly $16 billion in fees over the 20-year term**

Cheniere has indicated it only wants to build the first phase of this project so it needs another contract similar to the BG agreement, or a combination of several smaller contracts that total up to the BG volume. With those volumes, Cheniere will receive roughly $16 billion in fees over the 20-year term, but more importantly the company would be positioned to arrange construction financing for the facility. The company estimates that if construction begins during the first half of 2012, it should be able to begin shipping LNG before the end of 2015.

One thing we have learned over the years of following the natural gas market is that it seldom performs as anticipated. In some cases the lack of performance has reflected the intervention of regulations that distorted fundamentals. At other times it has been due to competitive fuel developments. As a result of our 40+ years of involvement with this industry, we have become cynical about its fortunes. Given that orientation, we would suggest that natural gas prices will likely jump substantially higher just about the time Cheniere is ready to load its first shipment of domestic LNG.

## Could Marcellus Shale Growth Be Sidelined By Legalities?

**The Butlers are relying on previous rulings that established ownership of oil or gas doesn't change hands unless it's specified in a deed**

It has recently come to our attention that a lawsuit in Pennsylvania over the ownership of Marcellus shale gas rights could put many leases in jeopardy and slow the development of this huge natural gas resource. The case is John E. and Mary Josephine Butler v. Charles Powers Estate et al, filed in the Superior Court of Pennsylvania. The Butlers are relying on previous rulings that established ownership of oil or gas doesn't change hands unless it's specified in a deed. In opposition, the Powers' heirs argue that the deed gave them the right to other minerals such as coal, and that they own the gas trapped in the shale the same way they would own the gas trapped in a coal seam.

**The Powers argue that shale gas is different and should be considered part of the mineral rights**

For over a century, Pennsylvania has required landowners to consider oil and gas rights separate from the more general and common "mineral rights" when transferring ownership of resources beneath the surface of their property. The Powers argue that shale gas is different and should be considered part of the mineral rights because it is contained inside rock. Part of the argument rests on the fact that the gas in the Marcellus shale is not free-flowing since it has to be fractured in order to release it. In the case of coalbed gas,

which also is trapped in the coal rock and only released once mining is underway, the ownership always remains with the mineral rights.

**The Superior Court ruled that current law doesn't sufficiently address whether "Marcellus shale constitutes a mineral"**

The Superior Court, the second-highest court in Pennsylvania, ruled that current law doesn't sufficiently address whether "Marcellus shale constitutes a mineral," sending the question back to the lower court to develop a trial fact record. Many oil and gas professionals would say that the Marcellus shale is merely a tight rock formation, but under laws that are more than a century old, that definition should not be considered a given. We will be watching this issue closely as it has the potential to upset popular assumptions about the role the Marcellus shale will play in America's energy strategy.

## We're Not Driving Miss Daisy Anymore Says Census Bureau

The 2010 American Community Survey conducted by the Census Bureau showed that 76.5% of American workers commute to their jobs alone in their vehicles. This is the highest the percentage has been since it began to be measured in 1960. At the time of the last census in 2000, the percentage figure was at 75.6%.

**Last year some 104.8 million Americans drove to work alone, up from 97.1 million in 2000**

What it means is that last year some 104.8 million Americans drove to work alone, up from 97.1 million in 2000. The more interesting statistic is that in 2000, 12.2% of workers, or 15.6 million, used car pools to get to work, but those figures dropped to 9.7% and 13.2 million in 2010. There was a small increase in the number of workers who used mass transit to get to work. From 4.6% of workers in 2000, the percentage rose to 4.9% in 2010. Amazingly, in 1960 about 12.1% of workers used mass transit to commute between their homes and work.

**Less than 10% of the jobs in major metropolitan areas can be reached within 45 minutes using mass transit, but that compares with a 21-minute median commute time for solo drivers**

Over the past decade gasoline prices rose by 46%, which had many expecting greater growth in the use of mass transit and car pools for commuting. The fact that they didn't is somewhat surprising, but explainable after examining an analysis prepared by the Brookings Institute. According to their research, less than 10% of the jobs in major metropolitan areas can be reached within 45 minutes using mass transit, but that compares with a 21-minute median commute time for solo drivers. These numbers point to a couple of trends – the growth of the suburbs has spread out employment centers almost necessitating the use of personal vehicles to commute to work. Unless, and until, we see a reversal in job migration back to cities, Americans are going to continue to drive themselves to work. This will be a blow to the environmentalists and energy-minimalists who are arguing that the revival of metropolitan areas is critical for boosting energy efficiency in our economy and improving our environment. The other message that comes through loud and clear in these statistics is how much Americans value their personal space and freedom, for example, having the flexibility to combine running errands with commuting to and from work.

**For all of 2011, gasoline demand has dropped by 1.2%.**

If American social attitudes toward the use of their vehicles has not changed and substantially higher gasoline prices haven't forced commuters out of their vehicles, then declines in gasoline consumption have to be explained by more efficient vehicles and the elimination of extraneous vehicle use. Last week, MasterCard Advisors' SpendingPulse report showed that for the week ending October 28th, gasoline demand declined by 2.7% from the same week in 2010 and marked the ninth straight weekly decline. Demand was 0.4% lower compared to the prior week, despite the fact that the average gasoline pump price dropped by two cents per gallon to $3.45. Pump prices were 23.2% higher than last year. The 4-week average for gasoline demand was off by 2.8% versus a year ago. For all of 2011, gasoline demand has dropped by 1.2%.

Actual gasoline demand for the week of October 28th was 8.78 million barrels per day (b/d) compared to 8.84 million b/d the prior week and 9.03 million b/d for the same week a year ago. Peak weekly gasoline consumption was experienced during the week ending July 1st, just ahead of the July Fourth holiday, when Americans consumed 9.56 million b/d.

With crude oil prices climbing back above $90 per barrel in recent days, we can expect that gasoline pump prices will begin inching upward. The rise will be slowed by the absence of seasonal driving demand, but as pump prices rise there will likely be further demand erosion at the margin as citizens become more frugal.

## Keystone XL Decision Near As Political Pressure Grows

**Political pressure over the environmental risks from constructing the pipeline, which will cross the Ogallala aquifer that underlies a part of Nebraska and neighboring states through which the Keystone XL line will pass, is growing**

The approval process to decide whether or not the United States will allow construction of the 1,675-mile pipeline from Alberta, Canada to the oil refining hub of the country along the Gulf Coast is grinding to a conclusion. The pipeline has received environmental approval from the U.S. State Department after strong criticism of an earlier study by the Environmental Protection Agency (EPA) for ignoring some of the environmental risks of the line. Political pressure over the environmental risks from constructing the pipeline, which will cross the Ogallala aquifer that underlies a part of Nebraska and neighboring states through which the Keystone XL line will pass, is growing. The line will be moving 500,000 barrels per day (b/d), and possibly as much as 830,000 b/d, of bituminous oil from the oil sands of Canada, a crude oil that has drawn the wrath of environmentalists for requiring more energy to extract than most other fossil fuels and emitting too much carbon pollution when consumed.

The approval of the Keystone line, to be owned and operated by TransCanada Corp (TRP-NYSE) a pipeline operator with a recently sullied reputation due to a series of pipeline spills due to poor maintenance procedures in the past several years, has become an environmentally, economically and politically charged issue. The

**Exhibit 8. Keystone Pipeline Route**


**Source:** ***The New York Times***

pipeline will increase Canada's role as the leading supplier of imported crude oil to the United States and improve our country's energy security. At the present time, the U.S. imports about 2.5 million b/d of crude oil, or roughly 22% of the nation's imported oil from Canada. Canada's import volume currently exceeds the combined flow from our next two largest import sources – Mexico and Saudi Arabia.

**The pipeline is supported by the U.S. Chamber of Commerce and the American Petroleum Institute because of its positive impact on the economy and the oil industry**

From an economic viewpoint, the $7-billion pipeline project is estimated to create over 20,000 construction jobs and potentially 1,000 permanent positions once it is in operation, something the Obama administration would like to see occur given the problem it has had in creating new jobs. The pipeline is supported by the U.S. Chamber of Commerce and the American Petroleum Institute because of its positive impact on the economy and the oil industry. Many unions are supporting the line because it will be a job creator. On the other hand, environmental opposition to building the line believes the estimated jobs impact has been overstated. A new flash point emerged recently when it was discovered that the

independent consulting firm hired by the State Department to review the environmental impact of the line had ties to TransCanada. By not disclosing this relationship, people are questioning the independence of the firm and whether its positive recommendation is tainted. The State Department has released data showing that this supposed conflict is wrong since the relationship comes from the extensive work the consulting firm has done for the federal government in evaluating multiple TransCanada pipeline projects and not from them working for the company.

**All of these production and transportation energy needs make it one of the "dirtier" fossil fuels helping to draw the wrath of environmentalists worldwide**

The output from the Canadian oil sands has become highly politicized in recent years due to the nature of the oil. It is extremely viscous, which allows for it to be mined with conventional excavation methods when it is close to the surface or through steam-assisted gravity producing schemes for deeper deposits. In either case, the extraction method requires a substantial amount of energy adding to the oil sands carbon footprint. The output also needs to be blended with a lighter hydrocarbon fluid in order to facilitate its transportation by pipeline. All of these production and transportation energy needs make it one of the "dirtier" fossil fuels helping to draw the wrath of environmentalists worldwide.

An important geopolitical issue for the oil sands was the recent decision by the European Union (EU) to ban the use of its output due to its large greenhouse gas emissions. The greater European economic area, which includes a number of countries not members of the EU but subject to its rules, will be impacted by this fuel ban decision. Norway, a European community member, has criticized the EU ruling for not being scientific or transparent. Norwegian Energy Minister Ola Borten Moe said on a recent visit to Canada that some of the conventional crude oils used in the EU may result in nearly as much greenhouse gas emissions as the oil sands, and that there is no transparency for African and Middle Eastern producers. With the help of the UK, Canada has been able to secure a delay in the final consideration of the fuel-quality regulation until December.

**It is fully expected that the EPA will still come out in the next couple of weeks and repeat its environmental concerns, including potential leaks from the pipeline and carbon emissions**

Environmentalists in the United States have been waging a vigorous protest against the oil sands and the approval of the Keystone pipeline, including a lengthy protest outside the White House that has witnessed the arrest of a number of prominent Hollywood stars. A major protest was scheduled for last Saturday, as the decision date for the State Department draws near. According to media reports, the State Department, which is charged with determining whether trans-boundary pipelines such as the Keystone line are in the nation's best interest, has been meeting with the EPA over its objections to the second environmental report that determined that the pipeline would not create environmental hazards. While the two government bodies work through the objections and concerns, it is fully expected that the EPA will still come out in the next couple of weeks and repeat its environmental concerns, including potential leaks from the pipeline and carbon emissions.

**The State Department is supposed to render its recommendation by November 26th, after which eight agencies affected by the decision have 15 days to decide whether to object**

The pipeline approval process, which has been underway for 38 months since TransCanada filed its application in 2008, was extended by the EPA interjecting itself into the process and the State Department deciding to hold public hearings in six states directly impacted by the line. The State Department is supposed to render its recommendation by November 26th, after which eight agencies affected by the decision have 15 days to decide whether to object. If there are no objections, the pipeline is approved. If there are objections, the issue moves to the White House, which can take as long as required to render its decision, including possibly delaying a decision until after next November's presidential election.

**In the TV interview, the President said he would be making the final decision**

Trying to read the political tea leaves about the approval course has become more complicated in recent days. The process took a surprising twist following an interview President Barack Obama gave to an Omaha, Nebraska television station reporter. The interview was less than 24 hours after the President's Press Secretary Jay Carney told White House reporters that the final approval decision would be made by the State Department. In the TV interview, the President said he would be making the final decision, suggesting he knows at least one agency will object. This was a surprise since it eliminates some of the political cover for the President to override whatever decision the State Department makes as a way to curry favor with those political supporters he feels he must mollify in order to boost his 2012 re-election chances. Will he support his environmental supporters or the pro-oil and pro-jobs lobby?

In his comments during the interview with Rob McCartney of KETV, the President said, "We need to encourage domestic natural gas and oil production. We need to make sure that we have energy security and aren't just relying on Middle East sources. But there's a way of doing that and still making sure that the health and safety of the American people and folks in Nebraska are protected, and that's how I'll be measuring these recommendations when they come to me."

**The legality of adding any restrictions to the pipeline approval would likely run afoul of the interstate commerce clause of the Constitution**

In Nebraska there is growing opposition to constructing the pipeline along its proposed route. The state legislature is now in a special session called by the governor to consider a bill to add various restrictions to the pipeline approval process. That bill is to be referred to a legislative committee on November 7th and returned to the full body for consideration on November 9th. The legality of adding any restrictions to the pipeline approval would likely run afoul of the interstate commerce clause of the Constitution, but it could force the pipeline approval into a legal battle that would delay its approval. This maneuver might be tried as attempts to convince TransCanada to re-route the line have been rejected because to do so would require restarting the environmental impact assessment adding several years to the approval process.

TransCanada has rejected changing the pipeline route because

delays in building the line would force shippers that have applied for capacity on the line to abandon it since they are facing 2013-2014 dates for termination of existing supply agreements with Mexico and Venezuela. Without an assured supply in a timely manner from Canada, these refiners would begin seeking supply commitments from elsewhere.

This turn of events could force oil sands producers to seek other outlets for their oil. Most likely, without another large volume pipeline project into the U.S., which would be a questionable strategy given the rejection of the Keystone pipeline expansion, Canadian producers would turn to Asian oil buyers. By killing the Keystone line, the Obama administration would be forcing the U.S. to have to rely on imports from other foreign suppliers, many of which are less reliable than Canada. Moreover, pipeline transportation is more secure and less polluting than imports hauled to this country in tankers.

**By killing the Keystone line, the Obama administration would be forcing the U.S. to have to rely on imports from other foreign suppliers, many of which are less reliable than Canada**

Is it possible President Obama would praise the need for the pipeline but side with the environmentalists and call for additional study of the issues? By being seen as not killing the pipeline, he could keep one important re-election constituency happy while possibly minimizing criticism from his other constituents who are in favor of building the line. The President tried to demonstrate the multiple conflicts he must consider when deciding the fate of the pipeline project, but also the decision local citizens are considering when he told the TV station, “I think folks in Nebraska, like all across the country, aren’t going to say to themselves, we’ll take a few thousand jobs if it means that our kids are potentially drinking water that would damage their health or if rich land that is so important to agriculture in Nebraska ends up being adversely affected, because those create jobs, and you know when somebody gets sick that’s a cost that the society has to bear as well. So these are all things that you have to take a look at when you make these decisions.”

Kimberley Strassel, who writes the Potomac Watch column in the *Wall Street Journal*, has a different take on the President’s strategy for handling his re-election constituencies and energy decisions. As she wrote in her column last week, she described the Keystone pipeline decision as “the clear culmination of an Obama governing philosophy that has consistently put green priorities ahead of blue-collar workers, and that is now one of the biggest threats to his re-election.” She pointed out that “Working-class white males were the Hillary Clinton bloc in 2008 and helped her trounce him in key states such as Pennsylvania and Ohio.” But as Ms. Strassel points out, “Rather than court this constituency, Mr. Obama has spent three years waging war on them.” She cites all the EPA rules being enacted and the estimated job losses as proof.

**She described the Keystone pipeline decision as “the clear culmination of an Obama governing philosophy that has consistently put green priorities ahead of blue-collar workers, and that is now one of the biggest threats to his re-election.”**

Ms. Strassel reported the results of a Pew poll earlier this year that showed that 43% of the white working class didn’t believe they’d be

**She believes this election strategy is a reason for the delay in the Keystone pipeline decision**

better off in 10 years, which was the most negative view expressed by any group polled. But the blue-collar, white workers still make up 40% of the electorate, and even more in states Mr. Obama needs to be re-elected. "The latest 2012 census data suggest that white working-class voters could make up some 55% of the Ohio, Pennsylvania and Michigan voters." Ms. Strassel believes that Mr. Obama's focus on Southern and Rocky Mountain states he won in 2008 is his attempt to find a path to victory by going around the Rust Belt. She believes this election strategy is a reason for the delay in the Keystone pipeline decision. Its approval would upset the green lobby. As she put it, "…the green lobby hates it, and that green lobby is a staple of the liberal, educated, affluent base, and that's the group the Obama team is ever more convinced it's going to need in 2012." Her analysis and argument suggest that Keystone won't know its fate until sometime in 2012, if at all.

**One also has to wonder what the political wrangling over these decisions will do to the mood of Americans and their holiday spending plans**

Between the decisions about the Keystone pipeline and Congress' Super Committee on government deficit reduction steps, the upcoming year-end holiday season is going to be an entertaining season. One also has to wonder what the political wrangling over these decisions will do to the mood of Americans and their holiday spending plans. We suspect both decision dramas will have twists and turns we haven't imagined, so stay tuned. But also, don't be surprised if one of those twists results in merely kicking the can further down the road given the pressures of the upcoming election.

## Understanding The Europe Wildcard And Global Energy Needs

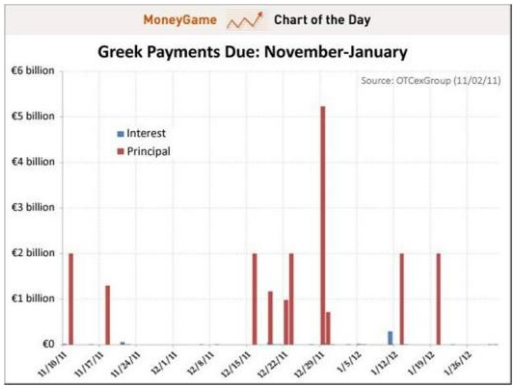
**Without a bailout, prospects for Greece functioning economically would be severely damaged if the population voted to reject the EU**

The drama of the European sovereign debt crisis appeared to reach a crescendo last week when the Greek prime minister called for a national referendum on the proposed austerity measures being dictated by Germany and France, the leaders of the European Union (EU), in order to bail out Greece. As Greek citizens have been rioting and striking and protesting the proposed austerity measures, any referendum was doomed to being voted down overwhelmingly. Understanding this reality, French President Nicolas Sarkozy and German Chancellor Angela Merkel reacted violently to the referendum idea and presented an ultimatum to Greece to move its vote from January to the beginning of December and that the referendum should be about the desire of the Greeks to remain a part of the EU and the euro currency. Without a bailout, prospects for Greece functioning economically would be severely damaged if the population voted to reject the EU. A mutual self-destruction game now is being played by the two warring sides, reminiscent of the game played between the U.S. and the USSR during the Cold War era.

A critical ingredient in the Greece story, besides reducing the level of debt to the size of its economy, is the timing of debt repayments and cash availability. When one examines the schedule of repayment dates and amounts, it becomes clear that over the November

through January period, the government needs to have available about €20 billion ($27.6 billion) of cash.

**Exhibit 9. Greece's Near-term Debt Schedule**

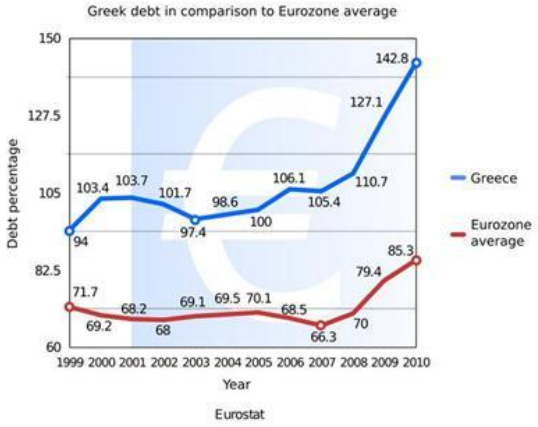



**Source:** ***MoneyGame.com***

**The bail-out package would reduce Greece's debt burden by €100 billion ($145 billion) helping to reduce its debt to gross domestic product (GDP) ratio to 120% by 2020 from the current 160%**

Before the end of last week, the Greek government headed by Prime Minister George Papandreou not only had junked the referendum but was struggling to survive a vote of no confidence. Early Saturday morning Mr. Papandreou's government survived the vote. Now Greece is in position to receive the benefits of the bailout. The plan is to get European banks to take a 50% cut in the value of the Greek bonds they hold and for them to raise additional capital to support the bond write-downs. The bail-out package would reduce Greece's debt burden by €100 billion ($145 billion) helping to reduce its debt to gross domestic product (GDP) ratio to 120% by 2020 from the current 160%.

**Exhibit 10. Greece's Debt Problem**



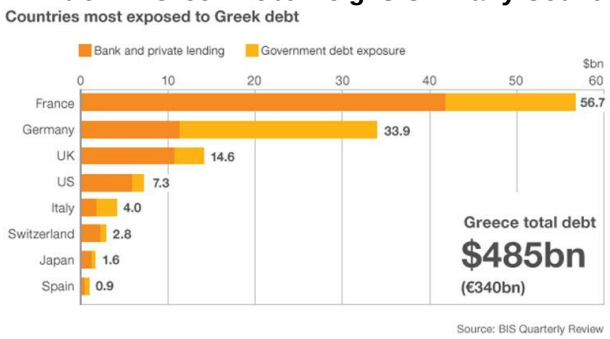

**Source: Agora Financial**

As the leaders of the G20 countries gathered in Cannes last week for another idyllic meeting to discuss the world's ills while generally only serving up platitudes for solutions, the world was holding its collective breath wondering what would happen if Greece defaulted.

**Once more the can has been kicked a little further down the road, or at least far enough to be out of everyone's immediate concern**

Initially, EU leaders turned to President Obama suggesting that the U.S. engineer a solution. President Obama rightly demurred saying it was a European problem. But then again, President Obama has plenty of problems trying to re-invigorate the U.S. economy given our financial and debt problems. Now that the Greek government has survived the weekend vote, the world can safely exhale. Once more the can has been kicked a little further down the road, or at least far enough to be out of everyone's immediate concern. The problem is the bailout plan still doesn't solve the European sovereign debt issue.

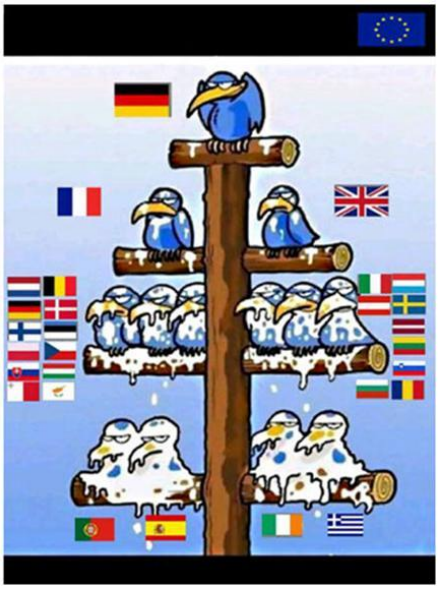
**Exhibit 11. Greek Debt Weighs On Many Countries**




**Source:** ***BIS Quarterly Review***

As we watched last week's drama unfolding, we came across the following organizational chart for the EU. This is a graphical portrayal of the old joke about wanting to be the lead dog in a dogsled race because otherwise the scenery never changes.

**Exhibit 12. Too Much Poop At Bottom**



**Source: Casey Research**

The big question for the chart is trying to guess just how deep the bird poop has to be before the perches break off. We may be on the road to finding out the answer to that question. What we do know, however, is that given this continued pooping, Europe's economic growth is being restrained and energy consumption will not be increasing anytime soon.

## New Concern Over Hydraulic Fracturing May Impact Its Use

Last spring two small earthquakes struck an area near Blackpool, England, where Cuadrilla Resources, Ltd. drilled and hydraulically fractured two shale gas wells. The earthquakes – the April one was 2.3 on the Richter scale and the May one was 1.5 – have now been determined to have been caused by the fracturing activity. Shortly after the earthquakes, Cuadrilla voluntarily ceased fracturing until a study was conducted on the possible linkage between fracturing and the seismic activity. Last week the study, *Geomechanical Study of Bowland Shale Seismicity*, funded by Cuadrilla, was released and it pointed to "strong evidence" that the two minor earthquakes and 48 weaker seismic events resulted from the company's fracturing efforts. At the same time, the report stated that the events were the result of a "rare combination of geological factors." This suggests that the linkage between hydraulic fracturing and earthquakes may not be as direct as suggested by the conclusions of the study.

**The earthquakes – the April one was 2.3 on the Richter scale and the May one was 1.5 – have now been determined to have been caused by the fracturing activity**

This report comes at the same time a previously unreported study conducted by the Oklahoma Geologic Survey showed a linkage between fracturing and earthquakes came to light. The study, *Examination of Possibly Induced Seismicity from Hydraulic Fracturing in the Eola Field, Garvin County, Oklahoma*, is currently being prepared for peer review. The study shows that a series of small earthquakes last January near Elmore City can be attributed to hydraulic fracturing activity in the nearby field.

The UK study will be considered by regulators before they take any action. After the earthquakes, Cuadrilla engaged an independent team of seismic experts and the study was prepared in consultation with the Department of Energy and Climate Change who regulates fracturing. The report said that the combination of seismic factors and local geology conditions was rare and unlikely to occur together in the future. As the report concluded, "If these factors were to combine again in the future, local geology limits seismic events to around magnitude 3 on the Richter scale as a worst-case scenario." The conclusion is important because recently Cuadrilla announced a major shale gas discovery in the UK, but development has been delayed until this study was completed. Now it may have to await a decision by the regulators.

**The report said that the combination of seismic factors and local geology conditions was rare and unlikely to occur together in the future**

These two studies come at a difficult time for the shale gas industry as they add fuel to the environmental objections to this extraction practice. Recently the Environmental Protection Agency announced

**And even though the earthquakes were very small and caused little or no structural damage or any injuries, they are scary for people in the area when they happen**

the outline for its detailed study of hydraulic fracturing and possible ground water pollution. That study has already drawn significant attention and anticipation. And even though the earthquakes were very small and caused little or no structural damage or any injuries, they are scary for people in the area when they happen. Additionally, they raise concerns about the impact of the fracturing pressures being exerted on the substrata of the earth and the possibility that those stresses can create other unknown problems such as aquifer contamination. All of this may cause regulators and politicians to want to slowdown the shale gas revolution.

## What's The Outlook For Energy Stocks?

**Long-term investment strategy is caught up in anticipating the overnight headlines – about a 12-hour cycle!**

Just like oil and gas prices, energy equities have been highly volatile in recent months. Of course, one could say the same thing about the overall stock market, interest rates and the value of currencies. Everything seems to be keyed to whatever the early morning headlines say about the latest developments in Europe – collapse of the euro; riots in response to austerity plans; another sovereign debt crisis; or euphoria over agreements among warring countries to bail out a sinking economy. Long-term investment strategy is caught up in anticipating the overnight headlines – about a 12-hour cycle!

In the latest Big Money Poll taken in late September by *Barron's* magazine and published at the beginning of November, 52% of surveyed portfolio managers were bullish or very bullish compared to only 17% who were bearish or very bearish. The bullish percentage was down from last spring's poll that showed 59.5% of portfolio managers were bullish. Sentiment, however, remains quite positive as 90% of the portfolio managers said they would be net buyers of stocks over the next 6-12 months.

**Overwhelmingly they believe that the U.S. economy will be mired in slow growth (1-2% per year) for an extended period of time**

On the economy, only 12% felt there would be a double dip recession with more than three times the number saying it was "unlikely." Overwhelmingly they believe that the U.S. economy will be mired in slow growth (1-2% per year) for an extended period of time. Only 15% of the portfolio managers think the economy can grow at 2.5% or better, which just happened to coincide with the first estimate by the federal government for third quarter's gross domestic production growth. (Within that growth estimate are mixed signals about the health of the economy and where it may be heading, however.)

It was very interesting that 56% of the managers believe growth stocks will outperform value stocks. At the same time, 68% of them said that the best performing stocks would be large cap stocks while only 15% believe small caps will lead the parade. That seems to be somewhat of a conflict since growth is usually associated with smaller companies while large caps tend to be more value oriented and slower growing.

**The rankings were based on earnings growth, sales growth and return on equity for the past 12 months and over the last five years**

With this outlook, it was quite interesting to see the latest Top 100 Best Small Companies list as compiled by *Forbes* magazine. Among this group of companies, there were three oilfield service companies and one E&P company. It is important to understand that this list was compiled on the basis of past performance and not future prospects. To qualify, a company had to have been publicly traded for at least a year, generate revenue between $5 million and $1 billion and have a share price higher than $5. The rankings were based on earnings growth, sales growth and return on equity for the past 12 months and over the last five years. The final qualifying statistic was the relative share performance versus the company's peer group. The significance of making this list, as *Forbes* points out, is that last year's members outperformed the Russell 2000 small-company index by an average of 10 percentage points.

The three oilfield service companies included at number 18, offshore driller Atwood Oceanics, Inc. (ATW-NYSE) with sales of $628 million. In the number 75 slot was the world's largest manufacturer of ceramic proppants used in fracturing oil and gas formations, Carbo Ceramics Inc. (CRR-NYSE) with sales of $539 million. The number 88 company was Chart Industries Inc. (GTLS-OTC), a manufacturer of products for purifying, distributing and storing liquid natural gas, with sales of $662 million. The only E&P company to make the list at number 71 was GeoResources, Inc. (GEOI-OTC) with sales of $112 million and player in the two hottest American oil shale formations – the Bakken and the Eagle Ford.

**12% of portfolio managers picked energy to be the best performing sector over the next 6-12 months**

So what about the outlook for energy stocks? In light of the continuing economic weakness and financial turmoil, prospects for commodity prices and E&P spending in 2012 are not robust. In was interesting, however, that in the *Barron's* poll, of the ten industry sectors, 12% of portfolio managers picked energy to be the best performing sector over the next 6-12 months. That percentage put energy as the number two industry sector. In the worst performing ranking, only 5% of managers listed energy, helping it finish in the top half of all sectors and tied for second place. In other words, investment pros don't seem bothered by a questionable economic and industry outlook next year. Maybe that reflects the belief that in a slow-growth economy energy demand will continue to hold up reasonably well, supporting oil and gas prices at levels where companies can make money and, more importantly, continue to spend money to develop new resources.

With the Dow Jones index up about 5% over the past 12 months (through November 1) and the Standard & Poor's 500 index up 3%, energy stocks have either held their own (OSX +3%) or outperformed (EPX +7%; XOI +10% and XNG +17%). The latter group of commodity-oriented sector indices have probably benefitted from the strong performance of their dividend paying members. Investors have struggled for the past few years to find investments providing higher income than that available in debt markets, and as

**Portfolio managers are well aware that investors will continue to seek out high-yield securities and energy stocks are high on that list**

a result have turned to energy companies and master limited trusts. Portfolio managers are well aware that investors will continue to seek out high-yield securities and energy stocks are high on that list, which may continue to drive performance over the next year. If commodity prices crater in response to a weak economy or another credit crisis, energy company earnings will suffer and so will their payouts, in the mean time investors chasing yield will keep energy stocks in the race.

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