
MUSINGS FROM THE OIL PATCH

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Allen Brooks
Managing Director

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

Building Sand Castles: BSEE's Regulatory Over-Reach

On April 20, 2010, an explosion occurred on Transocean's (RIG-NYSE) *Deepwater Horizon*, a nine-year old semisubmersible drilling rig working to drill the first well on BP plc.'s (BP-NYSE) Macondo prospect in the Gulf of Mexico. The explosion, resulting fire and eventual sinking of the rig set off a chain of events that unleashed the greatest oil spill in U.S. oil industry history. The *Deepwater Horizon* disaster resulted in the deaths of 11 workers, while 94 crewmen were rescued.

On September 19, 2010, the incident commander for the Macondo spill declared the well "effectively dead"

Two days after the explosion, an oil leak was detected from the well and industry and government officials shifted into high gear in an attempt initially to contain the spill and ultimately design a way to permanently seal the well. Numerous attempts were made to try to close the blowout preventer shear rams, pump drilling mud and cement into the well, place a containment dome over the well to catch the leaking oil and burning off some of the oil that rose to the surface. Other ideas were considered and discarded. Eventually a relief well was drilled that intersected with the original well bore and cement was pumped in to permanently plug the leaking well. On September 19, 2010, U.S. Coast Guard Admiral Thad Allen (ret.), the incident commander for the Macondo spill, declared the well "effectively dead" and of no future danger to the Gulf of Mexico.

Another impact of the *Deepwater Horizon* disaster was the revamping of the federal government's natural resource regulatory structure

The offshore oil and gas industry was disrupted not only by the disaster but also from the federal government's actions to shut down all offshore drilling until forced by the courts to allow shallow water drilling activity and eventually deepwater drilling to resume. Another impact of the *Deepwater Horizon* disaster was the revamping of the federal government's natural resource regulatory structure, taking the Interior Department's Minerals Management Service and breaking into three parts in order to eliminate conflicting missions –

As part of the establishment of BSEE, the federal government announced it had the power (and duty) to regulate all companies involved in offshore resource activity

one (Office of Natural Resources Revenue) to manage the royalty and revenues derived from the nation's resources, another (Bureau of Ocean Energy Management) to manage the sustainable development of the nation's offshore resources, and the third (Bureau of Safety and Environmental Enforcement) to regulate safety and environmental oversight of offshore oil and gas activities.

The Bureau of Safety and Environmental Enforcement (BSEE) became actively involved in examining the causes of the *Deepwater Horizon* disaster, which has led to revisions to existing offshore safety and operating procedures. As part of the establishment of BSEE, the federal government announced it had the power (and duty) to regulate all companies involved in offshore resource activity, which was a significant extension of its regulatory power. Prior to this announced expansion of its regulatory scope, the MMS/BSEE only regulated through its contractual relationship with offshore operators (lessees). Offshore service companies conducting drilling, construction, transportation and maintenance activities on operated leases were regulated through Incidents of Non Compliance (INCs) sent to the lessee. Now, following the *Deepwater Horizon* accident and resulting Macondo oil spill, two service companies – Halliburton (HAL-NYSE) and Transocean (RIG-NYSE) - were issued INCs for the first time ever. The authority for BSEE to issue those INCs was derived from the regulators' broad interpretation of the scope of the agency's regulatory powers.

BSEE has yet to promulgate any rules, which would provide an opportunity for companies to comment, discuss and negotiate with the bureau before they become codified

Beyond the question of issuing INCs was problem of BSEE not having offered rules for regulating offshore service company operations. There are strict procedures established under the Administration Procedures Act (APA) that stipulate how federal government agencies are to lay out new industry regulations, the right of industry participants to comment on the proposed rules, and for the federal government to consider these comments in any final rule-making activity. BSEE has yet to promulgate any rules, which would provide an opportunity for companies to comment, discuss and negotiate with the bureau before they become codified.

This court-approved settlement resolves all other pending government agency enforcement actions and penalties against Transocean

The latest development in this regulatory jurisdictional issue was the February 19th hearing in the United States District Court for the Eastern District of Louisiana where Judge Carl Barbier approved Transocean's Partial Consent Decree with the U.S. government. Transocean agreed to pay \$1 billion in civil penalties for violations of the Clean Water Act and to take other remedial measures. Transocean has two years to pay the fine and to institute a series of operational safety and emergency response improvements on its rigs. This court-approved settlement resolves all other pending government agency enforcement actions and penalties against Transocean, including the four INCs issued by BSEE in October 2011 for the Macondo disaster. Those INCs (and HAL's INCs) had been on appeal with the Interior Board of Land Appeals.

BSEE can claim that its first enforcement action against an offshore contractor successfully resulted in the issuance of INCs

The negotiated settlement requires Transocean to abandon its appeal of the INCs without an admission of liability for the claims in the INCs and for the U.S. government not to assess any civil or administrative penalties based on the INCs. Importantly, BSEE is not dismissing the INCs. This means that BSEE can claim that its first enforcement action against an offshore contractor successfully resulted in the issuance of INCs. The requirement that Transocean abandon its appeal avoids any judicial review of BSEE's action. The settlement terms raise the question of whether BSEE is concerned about its ability to withstand judicial scrutiny of the expansion of its regulatory authority.

We doubt that BSEE has any intention of issuing draft regulations for the industry to comment on soon since it believes it already possesses all the authority it needs to issue INCs

According to a newsletter published by the Houston-based law firm Legge, Farrow, Kimmitt, McGrath & Brown, LLP, "This issue will likely remain unresolved until a court reviews BSEE's current attempts to directly regulate contractors, or until BSEE drafts appropriate regulations and submits them for notice and comment by the industry as required under the Administrative Procedures Act." We would agree with the first conclusion about the potential for a court review clarifying BSEE's authority. However, we doubt that BSEE has any intention of issuing draft regulations for the industry to comment on soon since it believes it already possesses all the authority it needs to issue INCs, even though service companies do not know the rules they must operate under. For this reason, the request by BSEE for comments about its draft safety culture policy statement offers the best opportunity for industry representatives to comment not only on the policy statement but also on other issues involving offshore regulation.

Operating in the dark is not a sound business strategy

Offshore service company managements need to understand they now are regulated, but without any clear understanding of what the rules are they are operating under and will be judged against. Most energy executives think of industry regulation as that of utilities where government agencies oversee pricing, returns companies can earn and how they operate. In this case, the regulations are only dealing with how a company operates, but that can have a significant impact on financial returns. Operating in the dark is not a sound business strategy, and if it comes as a result of ignoring the opportunity to seek clarity then managers have only themselves to blame if they get caught in this Kafkaesque environment.

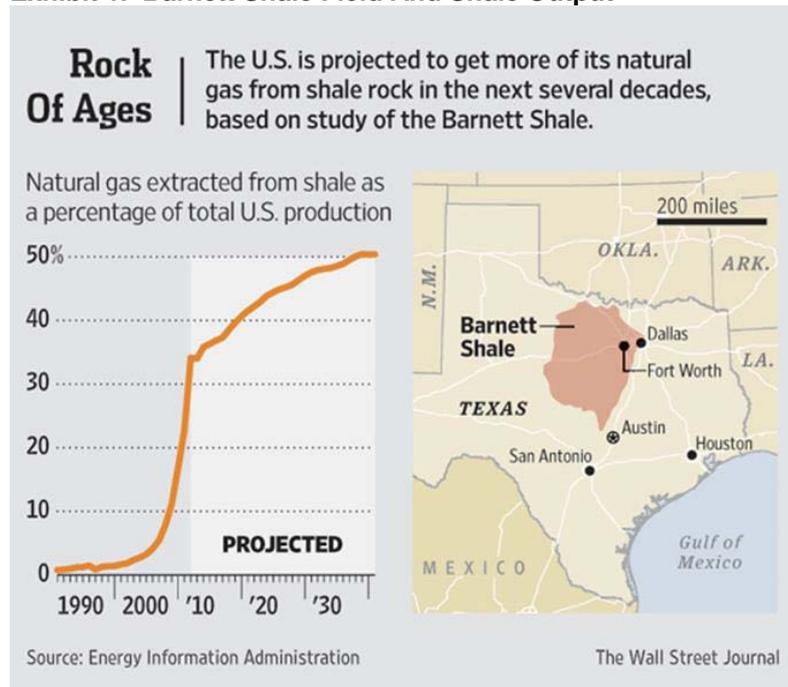
Will Barnett Shale Study End Debate Over Gas Outlook?

The Texas Bureau of Economic Geology released highlights of its two-year study of the Barnett Shale field

Last Thursday, officials at the Texas Bureau of Economic Geology released highlights of its two-year study of the Barnett Shale field. This is ground zero for the American shale revolution since it is where George Mitchell and his engineers tested the thesis that by drilling horizontal wells and applying substantial hydraulic pressure on the rock the natural gas known to be trapped in the Barnett shale formation would be able to be produced. Through trial and error and

with the assistance of research help the federal government, designed to devise methods for extracting gas from coal seams, Mitchell Energy was able to begin meaningful natural gas production from the Barnett Shale in the late 1990s.

Exhibit 1. Barnett Shale Field And Shale Output



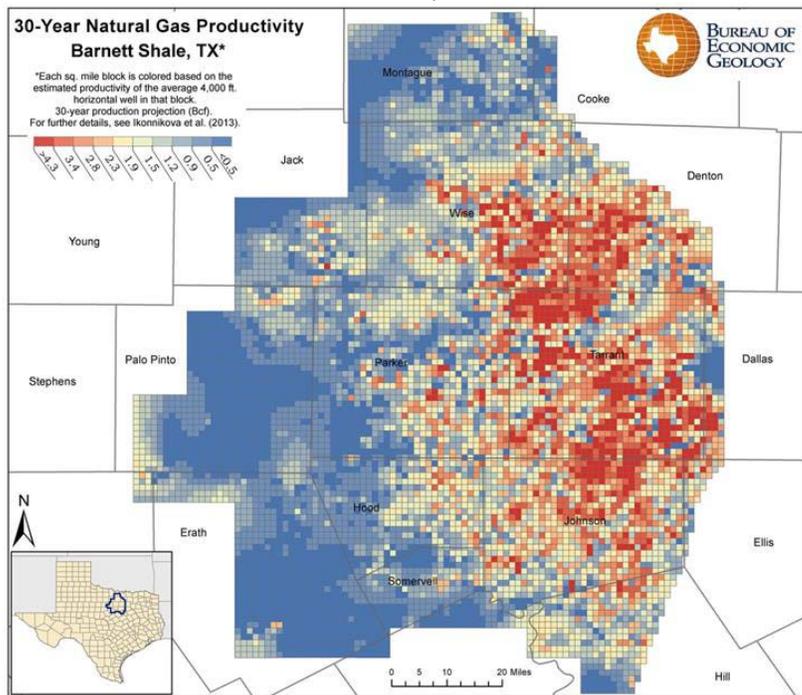
Source: *The Wall Street Journal*

For the past 4-5 years there has been a vigorous debate underway about the volume of shale gas resources in the U.S. and elsewhere, and the amount of production that can be extracted from these formations economically

The Barnett Shale in North Central Texas is an important field for the state and the nation's second largest shale gas field. The history of the field's production and the financial performance of operators in the field have played a significant role in fueling the debate over the viability of the shale revolution. For the past 4-5 years there has been a vigorous debate underway about the volume of shale gas resources in the U.S. and elsewhere, and the amount of production that can be extracted from these formations economically. This latter consideration played a part in the debate over the financial performance of operators who have staked their future on the shale revolution. So will this exhaustive study of the Barnett Shale end the debate, or merely provide fuel to continue it?

The Bureau of Economic Geology was selected to conduct the study, which was funded by the nonpartisan Alfred P. Sloan Foundation. Care was taken to make sure that the study was conducted without undue influence from oil and gas industry interests in an attempt to arrest the typical bickering over possible ties any researchers have to industry or environmental interests that might be construed as undercutting the researchers' independence.

Exhibit 2. Barnett Field And Its 16,000+ Wells Studied



The study involved a well-by-well analysis of the production from more than 16,000 wells in the Barnett field based on a decline basis

The study involved a well-by-well analysis of the production from more than 16,000 wells in the Barnett field based on a decline basis and determining each individual well’s estimated ultimate recovery (EUR). The Department of Petroleum Geosystems and Engineering at the University of Texas helped develop a physics-based decline curve that related time to the rate of well production that closely modeled the output of Barnett wells. The well analysis decline curve accounts for production impacts due to interfracture interference late in a well’s life, which was defined as after year five. The field was mapped and divided into 10 productivity tiers enabling increased granularity of the analysis for the reserves and economics of wells. Average well economics in each of the 10 productivity tiers were analyzed including how gas plant liquids impact well economics.

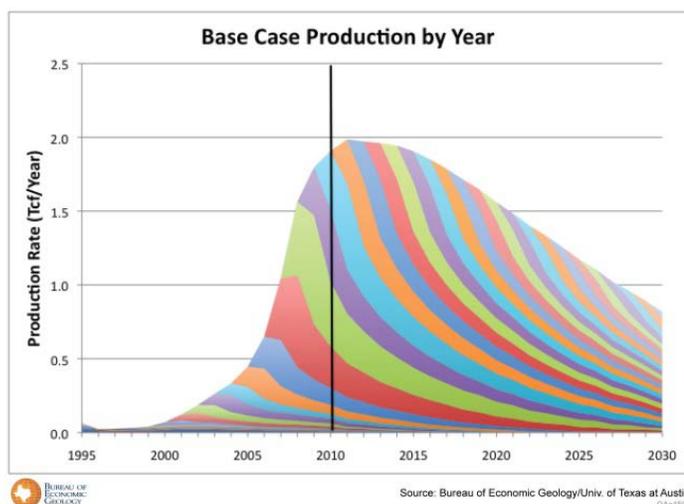
The 45 Tcf in drilled blocks exceeds the estimates of 23.81 Tcf by the EIA

The study concludes that there is 86 trillion cubic feet (Tcf) of technically recoverable free gas in the 8,000 square miles of the field analyzed. As of 2010, the field had produced over 12 Tcf of gas and there was 7 Tcf of gas reserves proven. Of the remaining 67 Tcf of gas remaining, 45 Tcf is located in drilled blocks consisting of 4,172 square miles of the field and 22 Tcf in undrilled blocks. The 45 Tcf in drilled blocks exceeds the estimates of 23.81 Tcf by the Energy Information Administration (EIA) of 4,000 miles of active area prepared in July 2011. The 67 Tcf of technically recoverable gas over 8,000 square miles exceeds the EIA estimate for the full Barnett field of 43.37 Tcf, which covered 6,500 square miles. The

U.S. Geological Survey estimated 26 Tcf of reserves for the Barnett field in their 2003 assessment that covered 5,000 square miles.

Exhibit 3. Production Forecast For Barnett Shale

Production Outlook for the Barnett Shale through 2030



Source: Bureau of Economic Geology

The model called for a peak in gas production at 2 Tcf a year, which would reflect a plateau and then begin to decline to 900 Bcf by 2030

The base case model developed for the study used a \$4 per thousand cubic feet (Mcf) of gas price and concluded the field will produce approximately 44 Tcf of gas through 2050 based on wells already drilled and the estimated wells still to be drilled. The econometric model allowed for variations in the price of gas, the volume of gas drained by each well, the economic limit of every well, advances in technology, gas plant incentives and other factors that would impact how much gas can be extracted economically. The model called for a peak in gas production at 2 Tcf a year, which would reflect a plateau and then begin to decline to 900 billion cubic feet (Bcf) by 2030. The history of the field's production since the end of 2010, the final year of the study, shows that Barnett production peaked at 2 Tcf in 2012.

The model assumes that about 13,000 wells still needed to be drilled by 2030. In 2011 and 2012, a total of 2,900 wells were drilled in the field, which is about on track for the forecasted well forecast. Therefore, about 10,000 wells remain to be drilled.

So what about the gas shale debate?

So what about the gas shale debate? The headline for the story in *The Wall Street Journal* read, "Gas Boom Projected to Grow for Years." That headline sums up the bullish case that there are plenty of natural gas resources in the United States and that they can be produced for years into the future. This thesis suggests that the shift

It also argues that exporting natural gas in the form of LNG

underway in how our electricity is generated – away from coal and to natural gas – will continue. It also argues that exporting natural gas in the form of liquefied natural gas (LNG) should be allowed as concluded by an earlier study of LNG exports on domestic gas prices prepared for the EIA. Implicit in these conclusions is the belief that natural gas prices will remain low for the foreseeable future, as exemplified by the use of a \$4/Mcf gas price in the economic model and allowing for future price volatility, meaning both higher and lower gas prices.

The report's average well EUR estimate is below the estimate claimed by numerous operators in the field

It is the gas price conclusion that becomes the core of the debate over shale. Natural gas prices have fallen from over \$13/Mcf in 2008 to \$3.43 now, or over a 70% decline. An interview with Scott Tinker, Director of the Bureau of Economic Geology and the Principal Investigator of the Barnett Shale study, in an article earlier in February in the *Ft. Worth Star-Telegram* reporting on preliminary results of the study said the average well had a EUR of 1.44 Bcf of gas, but he acknowledged that there was a wide disparity in the performance of wells in the field. That confirms that shale formations do have “sweet” spots in which production is much greater and total resources are large, contributing to low well costs and positive financial returns. Mr. Tinker went on in his interview to suggest that there were still many well locations in the richer areas of the Barnett Shale formation, but he also acknowledged that there were many wells with very poor returns. The report's average well EUR estimate is below the estimate claimed by numerous operators in the field, suggesting poor financial returns for the field.

The high initial production of newly drilled wells in these fields excited investors who were willing to provide tons of capital to these small companies

A critic of the gas shale boom, geologic consultant Art Berman, was quoted in *The Wall Street Journal* article as asking “why didn't they identify the sweet spots initially, before spending \$40 billion on land and wells?” This financial question is the core issue currently reshaping the shale revolution. The revolution began with a small independent oil and gas company, Mitchell Energy. Its success in cracking the code of the Barnett Shale led to its acquisition by Devon Energy (DVN-NYSE), a rapidly expanding independent that was seeking new exploration opportunities. As the shale boom mushroomed beyond the Barnett to the Haynesville in East Texas and Louisiana, the Fayetteville in Arkansas and finally the Marcellus formation of Appalachia encompassing Pennsylvania, New York, West Virginia and Ohio, aggressive independent operators, including newly formed companies backed by private equity funds, were leading the parade. The high initial production of newly drilled wells in these fields excited investors who were willing to provide tons of capital to these small companies (the per share leverage for small capitalization companies was huge). A land rush began with operators paying large lease bonuses and high royalty rates to secure wide swaths of acreage in these shale plays. Remember, the shales are blanket formations so it was thought that the amount of acreage leased was the most important consideration. The operators also agreed to aggressive drilling commitments, which

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We believe the results of the Barnett Shale study will be used aggressively to debunk those who are critical of the economics of shale and to support an expansion of the role natural gas will play in the future U.S. energy picture

further cranked up the euphoria surrounding the shale boom.

As production from gas shale fields began to climb, natural gas prices began to slump – partially due to the impact of the financial crisis and the resulting recession but also do to the impact of associated natural gas being produced from crude oil wells in shale formations such as the Eagle Ford in South Texas and the Bakken in North Dakota. However, early shale well results began to reveal that shale formations were not evenly distributed throughout a basin. Some areas proved much more prolific than others, something more similar to conventional reserves. Even before natural gas futures prices fell below \$2/Mcf in April of last year, the variable production of wells led to the economics of shale wells being questioned by some analysts and investors. Some producers resorted to distorted analyses of their well economics by eliminating the investment in leases, geological and geophysical analysis and overhead when determining the returns from their shale wells.

The larger, aggressive independents moved earlier before gas prices fell to the \$2/Mcf level to secure stable sources of capital in the form of joint ventures with major integrated oil companies seeking reserves, production and technological knowledge, and national oil companies seeking financial returns and shale intelligence. Some of the small, aggressive operators elected to sell out to these larger oil and gas companies. With gas prices at distressingly low prices, companies of all sizes began sorting out their asset bases and selling less desirable properties. Today, we are in the midst of a major restructuring of the domestic E&P industry as shale technology leaders, but saddled with a high cost of capital and large debt burdens are being absorbed by larger oil and gas companies with low costs of capital, large research and development budgets to fund further improvements in drilling and extraction technology and the financial staying power to withstand the time until natural gas prices rise to support the shale gas economics.

While we haven't seen the Barnett Shale study (its results are being presented in five papers submitted for peer review), we doubt it will end the debate over the shale revolution and its future. In fact, we suspect the report may actually heighten the debate as it points out the economics of shale gas, especially because a new model for forecasting well EURs has been developed, pointing out that shale formations are not uniform – either within or between formations. The Bureau of Economic Geology is engaged in studies of the Haynesville, Marcellus and Fayetteville shale formation to be completed by the end of the year. Those studies will add fuel to the debate. We believe the results of the Barnett Shale study will be used aggressively to debunk those who are critical of the economics of shale and to support an expansion of the role natural gas will play in the future U.S. energy picture.

Public Relations Battle Over Keystone Pipeline Ramps Up

The sequence of events actually has several interim steps, which have pushed off the potential decision date about the Presidential Permit to the June/July timeframe

Following the approval of the Keystone XL Pipeline application for construction by Governor David Heineman (Rep.) of Nebraska on January 22, 2013, the focus on whether it would receive final approval has shifted to the White House and President Barack Obama's upcoming decision. The sequence of events actually has several interim steps, which have pushed off the potential decision date about the Presidential Permit to the June/July timeframe. That delay, however, has done nothing to retard the growing public relations battle between environmentalists who oppose the development of Canada's vast oil sands deposits and energy industry and government officials pressing for its approval.

Executive Order 13337 delegates to the Secretary of State the President's authority to receive applications for Presidential Permits

The construction, connection, operation and maintenance of a pipeline that connects the United States with a foreign country requires executive permission conveyed through a Presidential Permit. Executive Order 13337 delegates to the Secretary of State the President's authority to receive applications for Presidential Permits. However, President Obama in late October 2011 told a reporter in an interview that notwithstanding the delegation of President Permit authority to the State Department, he would be personally involved in the final Keystone Pipeline permit application. As part of the pipeline approval process, both an Environmental Impact Statement (EIS) and National Interest Determination (NID) have to be prepared. Based on the determinations of these studies, the State Department can make a final approval decision and forward it to the president.

The original Keystone XL Pipeline permit application was filed in 2008

The original Keystone XL Pipeline permit application was filed in 2008. The proposed route through Nebraska drew environmental opposition. In late October 2011, the Nebraska legislature began a special session to determine if siting legislation could be crafted and passed for pipeline routing in Nebraska that would allow for an alternative route that would avoid the environmentally sensitive Sandhills area of the state. That decision triggered an announcement from the State Department that it would need additional information regarding any alternative pipeline route. The department said it would need to prepare a Supplemental Environmental Information Statement (SEIS) including additional public comments. It said the SEIS could be prepared as early as the first quarter of 2012. TransCanada (TRP-NYSE) said it would work with the Nebraska Department of Environmental Quality (NDEQ) to identify alternative pipeline routes, and the Nebraska governor signed legislation directing the NDEQ to work with the State Department to gather information for the SEIS. At this point the political battle over the pipeline's approval became intense. When Congress passed legislation to continue the payroll tax holiday, it included a provision requiring the Secretary of State to issue a permit within 60 days. Using that requirement as a rationalization to reject the permit application, the State Department, with the consent

We understand Gina McCarthy, the leading candidate to head the EPA was the author of the letter to the State Department in July 2010 calling its draft environmental assessment of the Keystone Pipeline project “inadequate.”

of President Obama, said on January 18, 2012, it would reject the permit because its review of the revised pipeline route could not be completed within the requirement timeframe.

The denial of the permit application ended the State Department’s National Interest Determination effort, originally proposed in November 2011. That meant that with a new Presidential Permit application from TransCanada, the State Department had to start a new EIS process. That process requires the State Department to consult with various agencies including the U.S. Army Corps of Engineers, the EPA, the Bureau of Land Management, the U.S. Fish and Wildlife Service along with various and numerous state and local agencies. This consultation process requires 90 days of public comment, which is followed by a period of time assessing the comments. One thing we have recently learned is that Gina McCarthy, who currently heads the EPA’s Office of Air and Radiation, reportedly has the inside track to replace Lisa Jackson, who stepped down as head of the EPA. We understand she was the author of the letter to the State Department in July 2010 calling its draft environmental assessment of the Keystone Pipeline project “inadequate.”

Exhibit 4. Proposed Keystone Pipeline Route



Source: State Department EIS

These columns argue that the facts surrounding the pipeline suggest significant positive benefits for the U.S. energy market and the economy

In the U.S., proponents of building the pipeline are mounting a campaign of op-ed and columns from political writers wishing to see the pipeline built. These columns argue that the facts surrounding the pipeline suggest significant positive benefits for the U.S. energy market and the economy. Opponents have become seemingly more desperate in their opposition calling on their supporters to not only write opposition articles, but also to stage demonstrations featuring high-profile Hollywood types, scions of leading political families, climate organizers and government officials.

The environmental supporters of President Obama are demanding swift and substantive action on climate change

While the debate over the permit approval was a key issue in the presidential election, it quieted down after the election. Now proponents and opponents of the pipeline have escalated the debate as they sense the decision date drawing near. The opposition still seems to be focused on the product the pipeline will carry and its harm to the global environment. The emotion surrounding this issue is outweighing any rationale consideration of its economic benefits.

The environmental supporters of President Obama are demanding swift and substantive action on climate change. They want the President to completely re-orient federal energy policy away from fossil fuels, and especially the “dirty” oil from Canada, and in favor of “green” or renewable energy, regardless of its high cost or operational inefficiencies. For them, it is a moral debate, not to be confused by facts.

The very next day, a group of environmental activists assembled in front of the White House demanding that the president reject the permit to construct the Keystone XL Pipeline

Given that environmentalists strongly supported the president’s re-election, they believe he owes them action on climate change. President Obama’s comments in his State of the Union Speech in mid-February about the need for the nation to address climate change certainly has provided succor for them. He stated in the speech that “for the sake of our children and our future, we must do more to combat climate change.” After listing climate change “facts” and assuring the audience that “we can make meaningful progress on this issue while driving strong economic growth,” he called on Congress to enact a carbon-tax – an unpopular idea that has previously been rejected. But more important for his supporters, the President stated that “if Congress won’t act soon to protect future generations, I will. I will direct my Cabinet to come up with executive actions we can take, now and in the future, to reduce pollution, prepare our communities for the consequences of climate change, and speed the transition to more sustainable sources of energy.”

The very next day, a group of environmental activists assembled in front of the White House demanding that the president reject the permit to construct the Keystone XL Pipeline. At the protest, actress Daryl Hannah, Robert F. Kennedy, Jr., environment activist and president of Waterkeeper Alliance, Bill McKibben, climate action organizer and founder of 350.org and anti-fossil fuel organization, James Hansen, NASA scientist, and several other high-profile celebrities were arrested for their protest.

The EPA has estimated the Keystone Pipeline will raise annual U.S. carbon pollution emissions by up to 27.6 million metric tons, the impact of putting an additional six million cars on the road

Amazingly, Michael Brune, executive director of the Sierra Club, started by naturalist John Muir, was arrested as he has decided his organization needs to become more of an activist. Mr. Brune is quoted saying, "For the first time in the Sierra Club's 120-year history, we have joined the ranks of visionaries of the past and present to engage in civil disobedience, knowing that the issue at hand is so critical, it compels the strongest defensible action."

The activists have grabbed information from the EPA and Oil Change International claiming to show how damaging the oil sands can be to the globe's carbon emissions. The EPA has estimated the Keystone Pipeline will raise annual U.S. carbon pollution emissions by up to 27.6 million metric tons, the impact of putting an additional six million cars on the road. Oil Change International claims in a report that the EPA has underestimated the impact of oil sands emissions by 13%, because the oil sands yield more petroleum coke than conventional crude oil, and that the coke is more carbon-intensive than coal

Exhibit 5. Environmental Protest At White House



Source: Zack Colman/*The Hill*

In the past few weeks, pundits and politicians in both Canada and the United States are wading in with op-eds and studies both supporting and attacking the pipeline. The latest to wade into the debate is Alison Redford, premier of the province of Alberta, the

They both believe the approval will come as part of a deal that involves the imposition of a carbon tax, something environmentalists believe needs to be enacted in the U.S. in order to slow greenhouse emissions and climate change

The State Department also determined that the U.S. could meet its energy needs without the pipeline as a result of growing domestic oil production and falling gasoline demand and expansions of existing transportation connections with Canada, thereby weakening the economic case for the pipeline

home of the oil sands. She wrote an op-ed in *USA Today* in which she called the Keystone Pipeline a vehicle for responsible development of the oil sands. She also said the province would work with oil sands developers and the Canadian and American governments to raise the bar on environmental actions.

Liberal *New York Times* columnist Joe Nocera and conservative *Washington Post* columnist George Will have both authored columns recently arguing that the Keystone Pipeline permit should be approved. Other media people such as *Capital Journal* columnist Gerald Seib and *Potomac Watch* columnist Kimberly Strassel, both of whom write for *The Wall Street Journal*, have written columns assessing how the pipeline could be approved. They both believe the approval will come as part of a deal that involves the imposition of a carbon tax, something environmentalists believe needs to be enacted in the U.S. in order to slow greenhouse emissions and climate change. They also believe it may be a much longer process than the State Department's comment that they will not be prepared to release their conclusion about the pipeline until early summer. This timetable has been altered by the appointment of John Kerry as the new Secretary of State. Mr. Kerry has been a long-time proponent of aggressive government actions to control climate change.

Friday afternoon the State Department issued its draft SEIS that made no recommendation on the pipeline permit. Instead, it reviewed the pros and cons of the pipeline and its environmental impact on the proposed route and the issue of global climate change. The State Department determined that with or without the pipeline, Canada's oil sands will be produced and burned. That directly undercuts the environmentalists' attack based on the pipeline leading to increased greenhouse gas emissions. On the other hand, the State Department also determined that the U.S. could meet its energy needs without the pipeline as a result of growing domestic oil production and falling gasoline demand and expansions of existing transportation connections with Canada, thereby weakening the economic case for the pipeline. Given the intensity of the pipeline debate and the politics of the approval process, the next few months will offer plenty of intrigue. Media reports say the SEIS is open for 45 days of public comments, but other timetables we have seen suggest the entire final review process is more like 90 days. The health of the economy this spring may ultimately determine Keystone's fate, but we continue to believe the President has been provided the ammunition to reject the pipeline while placing the onus on the Republicans who also want more to develop more domestic oil.

New EU Offshore Drilling Rules May Slow Future Activity

Two weeks ago, the European Parliament and the Council that represents European Union governments reached a political

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Operators working in European Union waters will be required to demonstrate that they are applying the same policies for preventing major accidents overseas

agreement on the European Commission's legislative proposal on the safety of offshore oil and gas activities in the European Union. The formal approval of the policy will occur in coming months. The proposal for a tightened and uniform offshore regulatory structure was first floated in 2011 in response to the 2010 Macondo well accident and resulting oil spill. Initially, the idea was that the best of the current offshore regulations from member countries in the European Union would form the basis of regulation and that all European Union members would adhere to them. There was much pushback from the U.K., which probably has the strictest offshore safety system and rules in place.

One significant concession made by the European Union in its proposal was to make the implementation in the form of a Directive rather than a Regulation. This provides that the individual members have the discretion of how to put the new rules in place. The third point of the 10 point program refers to the safety case that each operator must complete. For the U.K., the concern was that its established safety cases would need to be redone at great expense for the operators and disruption in their regulatory process. In other words, they saw this as a paper-pushing exercise that would divert time and effort from the actual safety inspection work of their country's inspectors. Now that each member country will be responsible for implementing the rules and guidelines, all the existing safety cases for each offshore drilling and producing installation will not need to be redone.

Offshore operators will be required to report to the European Union regulators all major accidents overseas in which they have been involved in order to enable key safety lessons to be studied. At the same time these operators working in European Union waters will be required to demonstrate that they are applying the same policies for preventing major accidents overseas as in their European Union operations. The challenge to all these regulations is how they will allow safety advances elsewhere to migrate to the European Union. That was the major objection the U.K. offshore industry had to the original proposal. Under the original concept, a one-size-fits-all set of regulations was to be adopted, which were largely to be based on the U.K.'s offshore safety cases. However, the proposed rules lifted from the UK regulations were poorly worded such that the terminology was altered and the intent of the rules was made ambiguous.

Potentially the most contentious issue in the European Union's offshore rules is the provision that each state that grants offshore drilling licenses must satisfy itself that only operators with proven technical and financial capacities necessary to ensure the safety of offshore activities and environmental protection are authorized to explore for and produce oil and gas in European Union waters. It is reported that this requirement includes "liability for potential economic damage where such liability is provided for by national

Wouldn't fewer operators translate into reduced offshore lease bonuses and a potential reduction in offshore lease royalties for governments?

law.” The question this provision raises is what it means for the future composition of the universe of offshore operators. Could a mix change actually translate into a reduction in the number of oil and gas companies allowed to operate offshore? Would that be a good thing? Wouldn't fewer operators translate into reduced offshore lease bonuses and a potential reduction in offshore lease royalties for governments? That would also mean less offshore oil and gas resources discovered, developed and produced. It also might be damaging to the health of the offshore oil service industry as fewer operators is likely to translate into fewer wells drilled and fields developed.

It will be more difficult for small E&P companies to obtain credit guarantees

An international legal news service interviewed several lawyers in Europe about the possible impact of this financial and technical requirement. One thought was that the financial test could be satisfied by the posting of credit or bank guarantees. This is easy for the major integrated oil companies, the national oil companies and very large independent exploration and production (E&P) companies to do. It will be more difficult for small E&P companies to obtain credit guarantees. When it comes to assessing the technical and financial capability of operators, including their responsibility to cover potential economic damage, the idea that each country will make the necessary determination probably provides the greatest flexibility to the regulation. Alex Msimang, the managing partner of Vinson & Elkins LLP's London office, commented, What [the directive] at least does is create some...minimum requirement that's likely to apply in any member state. There's still going to be a difference on what exactly the criteria are.” He went on to say, “What you tend to see in the U.K. is going to be far more developed and elaborate than what you see in Belgium.” For oil and gas companies, the world has not come to an end but the amount of flexibility companies have to operate continues to be eroded.

Polar Bears And Climate Change Becoming Top Issues

The challenge was over the impact of climate change on the future habitat of polar bears as determined by the United Nations' Intergovernmental Panel on Climate Change

Last week, the U.S. Court of Appeals for the D.C. Circuit upheld a decision by the Fish and Wildlife Service (FWS) to list the polar bear as “threatened” under the Endangered Species Act. The legal battle began after the 2007 determination in which the opponents contended that the FWS failed to interpret the information it used to justify the determination properly. In particular, the challenge was over the impact of climate change on the future habitat of polar bears as determined by the United Nations' Intergovernmental Panel on Climate Change. This decision is significant since it establishes the use of potential impacts from climate change on the environment as legal grounds for government actions.

The climate change issue also surfaced in the draft Environmental Impact Statement (EIS) for the Keystone XL Pipeline project issued by the Department of State last Friday. The report, as characterized by a State Department official on a conference call with reporters,

The State Department's conclusion is that there would be a minimal impact on the pace of development of the oil sands, so even without the pipeline there would be little positive benefit on the emission of greenhouse gases

attempted to be completely objective in assessing the issue of the impact on the environment from either building the Keystone project or not. The report contains no recommendation on the pipeline permit, but the report points out potential environmental issues and their mitigation. According to the *Washington Post*, "The lengthy assessment did not give environmentalists the answer they had hoped for in the debate over the project's climate impact." The draft EIS contains a detailed analysis of what is likely to happen if they don't approve the pipeline on the development of Canada's oil sands and how carbon emissions. The State Department's conclusion is that there would be a minimal impact on the pace of development of the oil sands, so even without the pipeline there would be little positive benefit on the emission of greenhouse gases.

The lesson from these two examples is that the environmental issue is firmly in play with respect to energy and other considerations

The lesson from these two examples is that the environmental issue is firmly in play with respect to energy and other considerations. The fact that the polar bear population is at a record high doesn't mean anything if you can show through computer modeling that sea ice "might" disappear due to climate change. It also flies in the face of a review of Scandinavian explorers' diaries that report the edge of sea ice has moved in 60-80 year cycles and what we have witnessed in recent years is nothing new, but really the natural Arctic ice cycle. Energy executives should understand they must examine their actions and strategies through the environmental lens if they wish to be successful.

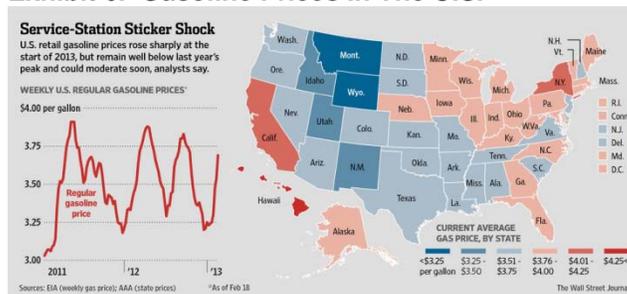
U.S. Gas Prices Soar, Elsewhere Buyers Get Subsidies

The rise in pump prices comes outside of the normal spring price run-up to the summer driving season

In the United States, gasoline prices have been climbing close to the magic \$4 per gallon threshold that triggers all sorts of public and political outcries. Once again, the rise in pump prices comes outside of the normal spring price run-up to the summer driving season. Last week, the U.S. average regular gasoline price was \$3.784 a gallon, up 3.7 cents from the prior week. The price rise has been driven by supply bottlenecks, the fact that a number of refineries have been shut down for maintenance, and the ever present speculators playing on OPEC's production restrictions.

Gasoline prices are now higher than at the same time last year meaning that consumers are struggling as their incomes have been cut by the roll-back of the payroll tax holiday

The chart in Exhibit 6 shows the course of gasoline prices since 2011 and the current average for each state. The state figures include both the federal and state sales taxes. The price chart, which ended two weeks ago, if updated for the latest published price would show that the pump price has climbed above the \$3.75 a gallon line and is beginning to threaten the peak of last fall. Analysts note gasoline prices are now higher than at the same time last year meaning that consumers are struggling as their incomes have been cut by the roll-back of the payroll tax holiday. Higher gasoline prices are also going to play havoc with the government's inflation calculations.

Exhibit 6. Gasoline Prices In The U.S.

Source: *The Wall Street Journal*

The government adjusts gasoline and diesel prices based on a system tied to the 22-day moving average of a basket of world crude oils

China is also confronting rising gasoline prices, although there the government sets the prices rather than the market or the oil companies. According to a *Bloomberg* news story, gasoline prices in Beijing will rise by 3.1% (300 Yuan or \$48 per metric ton) February 25th. The pump price for 90-RON, China III gasoline will cost 10,030 Yuan, or \$4.55 a U.S. gallon, according to *Bloomberg's* calculations from China's National Development and Reform Commission. Diesel prices are scheduled to increase by 290 Yuan per ton. The government adjusts gasoline and diesel prices based on a system tied to the 22-day moving average of a basket of world crude oils including Brent, Dubai and Indonesia's Cinta. Last year, China adjusted fuel prices eight times, raising prices four times and reducing them four times. The government is allowed to adjust prices whenever the crude oil average price changes by more than 4% from the last modification.

The cost of gasoline in China is more in line with cost of the fuel in the most expensive states in the United States – California and New York

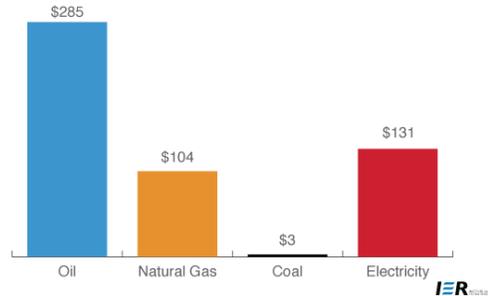
This price hike is the first since September of last year when the government raised gasoline prices by 550 Yuan per ton and diesel prices by 540 Yuan. Gasoline prices were cut by 310 Yuan per ton and diesel by 300 Yuan last November. These price adjustments are a function of the strength in global oil demand, which reflects the health of the world economy. As shown by the *Bloomberg* calculation, the cost of gasoline in China is more in line with cost of the fuel in the most expensive states in the United States – California and New York – and not with the very high pump prices in Western Europe. However, the Chinese government continues to subsidize fuel use in farming and public transportation.

The EIA's latest data shows that oil receives the largest share of fossil-fuel consumption subsidies with electricity second

The issue of fuel subsidies remains contentious as action by governments to reduce the true cost of fuel for its citizens actually encourages more consumption. That, in turn, means the government has to pay out even more money unless oil prices fall. Many of the larger fuel subsidies are provided in countries where the nation is an oil exporter. The International Energy Agency (IEA) maintains a database of energy fuel subsidies. Their latest data shows that oil receives the largest share of fossil-fuel consumption subsidies with electricity second. Interestingly, coal received the smallest subsidy probably because it is used in generating electricity and not for home heating, cooking or transportation.

Exhibit 7. Government Fuel Subsidies

Fossil-Fuel Consumption Subsidies, by Fuel Type, 2011 (billion dollars)



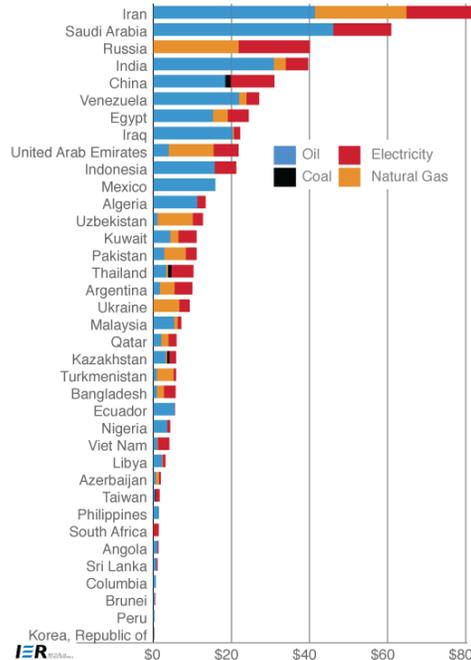
Source: *International Energy Review*

When it comes to subsidizing gasoline and diesel fuel, the leading countries tend to be oil exporters such as Iran, Saudi Arabia, Iraq and Venezuela

When the data is arrayed by country, it become very clear who is providing the most help to their citizens, even though it may be a serious drain on the nation’s finances. When it comes to subsidizing gasoline and diesel fuel, the leading countries tend to be oil exporters such as Iran, Saudi Arabia, Iraq and Venezuela. There are other countries who are importers of oil and refined petroleum product that provide hefty subsidies to their citizens in order to ease their daily lives and theoretically to keep them from becoming rebellious. In this category we see Indonesia, India, China and Mexico.

Exhibit 8. Energy Subsidies By Country

Fossil-Fuel Consumption Subsidies, by Country, 2011 (billion dollars)



Source: *International Energy Review*

The latest figures suggest the Indonesian government will spend about \$20 billion, or 11% of its budget on fuel subsidies this year

A recent analysis of the Indonesian subsidy situation provides an interesting example of the challenge faced by governments in attempting to reduce fuel subsidies. In Jakarta, Pertamina, the state oil company, sells subsidized fuel for the equivalent of \$0.46 a liter (Rp 4,500). While consumers are happy with the cut-rate priced fuel, the latest figures suggest the Indonesian government will spend about \$20 billion, or 11% of its budget on fuel subsidies this year. The impact of this subsidy is that cars and motorbike sales continue to grow, which helps boost the economy. However, the rising fuel bill for imported oil is contributing to a deteriorating trade position and adding downward pressure on the value of Indonesia's rupiah and reducing the investment appeal of what has become one of Asia's hottest emerging markets.

The top 50% of households by income consume 80% of the subsidized fuel, while the poorest 10% of households consumes less than 1%

Last year the Indonesian government attempted to reduce fuel subsidies, i.e., raising prices, but abandoned the effort in the face of stiff opposition. Opponents said that less well-off Indonesians would be hurt by higher fuel prices and the price increase would filter into the cost of other goods and services. All of that would drive inflation up. Proponents said that the inflationary impact of cutting fuel subsidies would be short-lived and would prove preferable to the inflationary effect of continued increased spending on oil imports and its impact on the value of the nation's currency.

By 2004 the country had fallen into a net oil import position, which has grown to the point that in 2011 it was importing approximately 400,000 barrels per day

The issue of fuel subsidies is highly political with comments from less well-off fuel consumers suggesting that the impact of higher fuel prices would lead to possible violent protests. On the other hand, a World Bank study shows it is the nation's car-driving middle and upper classes that benefit the most from the fuel subsidy. The top 50% of households by income consume 80% of the subsidized fuel, while the poorest 10% of households consumes less than 1%. Nearly half of the nation's population of 240 million people lives on less than \$2 a day, but the Indonesian government spends more on energy subsidies than on education, health and infrastructure. A possible solution to raising fuel prices is to rebate cash to the less well-off, although that might prove difficult to implement.

The impact of fuel subsidies coupled with rapid population growth has contributed to Indonesia falling into a net oil import condition. The country joined the Organization of Petroleum Exporting Countries (OPEC) in 1962, about two years after its founding as it was a large energy exporting country. At the turn of this century, Indonesia was exporting nearly 500,000 barrels per day of crude oil. By 2004 the country had fallen into a net oil import position, which has grown to the point that in 2011 it was importing approximately 400,000 barrels per day. In 2009 Indonesia suspended its membership in OPEC.

For all of the angst in America over gasoline prices, we were amused to read an article in *The Wall Street Journal* comparing "luxury" in a handful of leading cities of the world. One measure was

One has to wonder what would happen to global oil demand if everyone paid the market price for their fuel

The writer's idea is that the electric vehicle should be mandated by the government and the internal combustion engine outlawed due to it having only a 20% energy efficiency rating and large carbon emissions

the cost of a gallon of gasoline. Paris had the highest price at \$8.21 a gallon, followed right behind by Hong Kong at \$8.10. The cost of gasoline in London was \$7.15 a gallon while it was \$5.68 in Sydney. New York City's gasoline price was listed at \$4.16 a gallon, making it the cheapest of the world cities. One has to wonder what would happen to global oil demand if everyone paid the market price for their fuel. Clearly there would be severe economic and social adjustments required to make that sort of a transition, but it might be beneficial in the long-term for the planet.

Eliminating fuel subsidies would be a preferable adjustment compared to the idea suggested in a recent letter to the editor of the *Financial Times* from a London resident. He claimed that new technologies only are embraced with government mandates, citing the legislated requirement to install Westinghouse air-brakes on trains some 20 years after that product's invention. The writer's idea is that the electric vehicle should be mandated by the government and the internal combustion engine outlawed due to it having only a 20% energy efficiency rating and large carbon emissions. We wonder whether this gentleman, living in central London, just relies on public transportation for getting around. If so, he might be an ideal customer for an electric vehicle. We would not be surprised to find that this letter-writer isn't the equivalent of those environmentalists who fly all over the world, often in private planes, decrying increased carbon emissions.

Contact PPHB:
1900 St. James Place, Suite 125
Houston, Texas 77056
Main Tel: (713) 621-8100
Main Fax: (713) 621-8166
www.pphb.com

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