
MUSINGS FROM THE OIL PATCH

October 9, 2012

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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

Is BSEE Regulation Another Example Of Ideological Agendas?

This court ruling has opened the door for BSEE penalties under its regulations that can be applied to service companies and the fines cannot be shifted to the operator/lessee under a contract

In our last *Musings*, we wrote about the impact of the expansion of regulation to offshore service companies by the Bureau of Safety and Environmental Enforcement (BSEE). We have highlighted in prior articles how this regulatory expansion has occurred. In the last article we pointed out how a footnote in the ruling on contractual indemnity for Halliburton Company (HAL-NYSE) by BP plc. (BP-NYSE) at the time of the Macondo well blowout was not applicable to fines and penalties imposed under the Clean Water Act or BSEE rules. This court ruling has opened the door for BSEE penalties under its regulations that can be applied to service companies and the fines cannot be shifted to the operator/lessee under a contract. Moreover, the regulatory change makes all participants subject to the “joint and several” liability of all parties involved in an offshore activity. In our view, this risk represents a game-changer for the service industry, and it will have ramifications for future offshore activity and operator costs.

The response was consistent with the Department of the Interior’s view that its authority to enforce the regulatory change has always existed - just never utilized

Our article was forwarded to Admiral James Watson, the head of BSEE, for his comment on the unintended consequences of the regulatory expansion. Admiral Watson responded to the sender and we have seen the response, but since the email was not directed to us, we cannot quote it. We will, however, characterize the response as being consistent with the Department of the Interior’s view that its authority to enforce the regulatory change has always existed - just never utilized. Admiral Watson did not comprehend that his agency’s rulings issued on August 15th triggered a timetable for the industry to appeal the ruling. That process requires an appeal be filed within 60 days from the date of the ruling, or October 15th, a date Admiral Watson said he didn’t understand. Missing that appeal date may make moot certain possible company legal defenses in the event of the issuance of a violation notice.

What BSEE is doing is somewhat akin to the actions of the EPA with its regulations about the burning of coal and now a hypothetical Alaska mine analysis

The Department of the Interior has seized the opportunity of the Macondo incident to expand its regulatory power offshore. That power, however, was blunted several times by the courts when they ruled on the illegal action of imposing a moratorium on offshore drilling in the Gulf of Mexico. There are still issues being investigated by Congress about who approved this moratorium as its justification involved ignoring the advisory opinion of industry experts asked to review the policy before it was issued.

The BSEE regulatory expansion appears to be another federal government agency acting with an agenda despite clear evidence that it does so while ignoring long-established regulatory procedures and practices. What BSEE is doing is somewhat akin to the actions of the Environmental Protection Administration (EPA) with its regulations about the burning of coal and now a hypothetical Alaska mine analysis designed to discourage two companies from filing a plan to develop one of the largest U.S. mineral deposits located in Alaska. Approval of that application is under the purview of the Army Corps of Engineers and state regulators. The EPA has review rights after the Corps of Engineers rules. Since the EPA is unhappy about being legally behind the Corps of Engineers in the review process, it took the unusual step of preparing a study based on a hypothetical mine and found the potential pollution from this mine was unacceptable. According to an editorial about this study in *The Wall Street Journal*, the EPA's peer-review panel criticized the study. As the *WSJ* wrote, "In a public meeting in August, the 12 peer reviewers lambasted the study for its rushed, "unsatisfactory" and "hypothetical" nature, and for numerous errors."

Acting outside of the rules is not something new and different for this administration

The EPA has lost several high-profile regulatory cases recently as the courts have found the agency has overstepped its regulatory authority. That has not stopped the EPA as the hypothetical mine study suggests. Acting outside of the rules is not something new and different for this administration as we have seen many actions by President Obama by executive authority rather than dealing with the legislative process. BSEE's regulatory expansion appears to be another example of attempting to stretch the rules to justify actions never done before. This effort started under Michael Bromwich who headed the former Minerals Management Service during its re-organization that created BSEE. We are hopeful the service industry will mount an appeal of BSEE's actions before it is too late and the new regulatory environment is established.

Arabia's Seasons Of Discontent And Saudi Black Swans

The Arab Spring started in December 2010 when a street merchant in Tunisia, who had his business confiscated, set himself on fire in protest for the government's persecution and over- and irregular-regulation. From Tunisia to Egypt, the fires of protest were lit and spread until virtually the entire northern tier of Africa was ablaze.

By the time the spring really came, multiple governments had been toppled, dictatorial leaders were either killed or jailed, and Arab countries were transitioning to new leadership

The front four in the picture sufficiently demonstrate the seismic change underway in the region

The Arab Spring also extended into the Arabian Gulf countries with Bahrain meriting the most media attention, but other countries including Kuwait, Oman, Yemen and Saudi Arabia also felt the heat. By the time the spring really came, multiple governments had been toppled, dictatorial leaders were either killed or jailed, and Arab countries were transitioning to new leadership – not always to the liking of the U.S. The Arab Spring transitioned into Arab Winter and eventually into summer and fall.

The political changes since that Tunisian protest have been dramatic, and they continue generating chaos throughout the region - including the recent mob attack on the U.S. Embassy in Cairo and the terrorist attack on the U.S. Consulate in Benghazi, which killed our Libyan ambassador and three security guards. An October 10, 2010 file photo (Exhibit 1) from the *Associated Press* highlights the dramatic leadership changes from the Arab Spring. The photo shows Arab and African leaders at the second Afro-Arab summit held in Libya. In the front row of the photo, from left to right, are Tunisian President Zine El Abidine Ben Ali, now in exile; his Yemeni counterpart Ali Abdullah Saleh, who is no longer the president but does still head his party; Libyan leader Moammar Gaddafi, killed by Libyan rebels; and Egyptian President Hosni Mubarak, convicted of various crimes and now in jail. We have no idea whether any of the other leaders pictured have been deposed, but the front four sufficiently demonstrate the seismic change underway in the region.

Exhibit 1. Times In The Arab World Have Changed



Source: *Associated Press Photo/Amr Nabil*

The challenges facing Saudi Arabia include the Royal Family's succession and legitimacy, and the country's energy strategy

While most attention has been paid to the North African countries, the protests in Saudi Arabia and the government's response should be studied for its impact on the global energy picture. *Stratfor* recently produced an excellent series on the challenges facing Saudi Arabia – the Royal Family's succession and legitimacy, and the country's energy strategy. While the conclusions are that the Kingdom faces these challenges, they are considered longer term

The challenges in each area could just as easily cause a revolution in Saudi Arabia that could overthrow the government

issues. *Stratfor* concluded that the challenges will not manifest themselves soon enough to impact the stability of the Royal Family or the country's society, its financial health and its role in global oil markets. However, the challenges in each area could just as easily cause a revolution in Saudi Arabia that could overthrow the government altering its policies and alliances and, in turn, the stability of the U.S. dollar and global oil markets.

The Royal Family may be about to experience significant structural change given the age of the current leader and his likely successors

While our purpose is not to educate everyone about the nuances of the Royal Family's internal dynamics, the success of its leadership succession process is critical for the future stability of the country and likely the region given its aged leaders. The Royal Family may be about to experience significant structural change given the age of the current leader and his likely successors. These changes could be much like Russia's in the 1980s when it had multiple leadership changes in a matter of only four or five years.

Future kings would not only have to be a senior member of the family but also they had to be viewed as having national leadership credentials

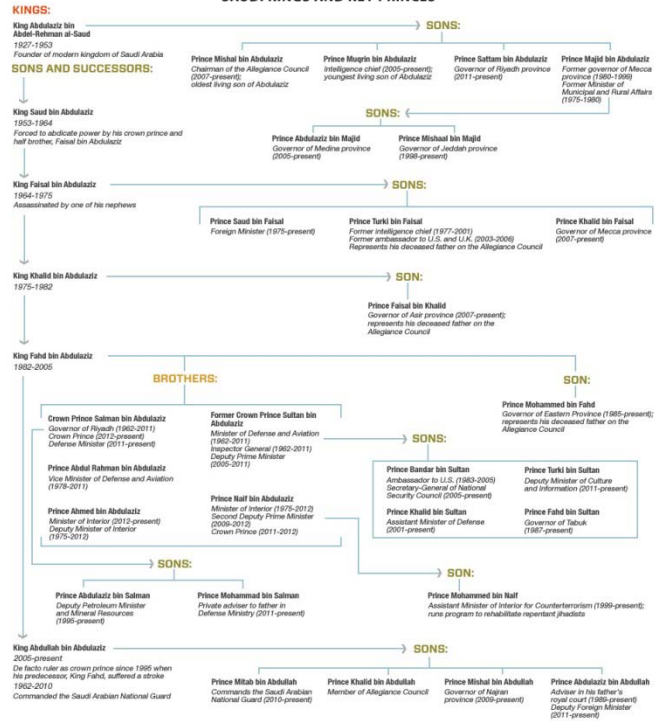
In the modern history of Saudi Arabia, there have been five leadership changes. The country's first leader, King Abdulaziz bin Abdel-Rehman al-Saud was succeeded by his oldest son King Saud bin Abdulaziz in 1953. The original king's second son, Faisal Bin Abdulaziz, seized power in 1964 from his brother forcing him to resign the throne. At that time it was determined that future kings would not only have to be a senior member of the family but also they had to be viewed as having national leadership credentials. That policy was reinforced when Prince Fahd bin Abdulaziz became king over his two older brothers who lacked senior national leadership experience.

Family unity has enabled the Kingdom to survive its past crises and challenges

The deaths of two crown princes in the past eight months highlight that the pool of second-generation princes is dwindling. It has been this pool that has supplied all the leadership of Saudi Arabia for about 80 years. As the third generation princes step into leadership roles in the next several decades, the pillar of strength for the Kingdom – family unity – will be tested. The family unity agreement among the princes, which was developed during the 1950s and 1960s and enabled the princes to put aside personal agendas in favor of the greater good, will be tested. Family unity has enabled the Kingdom to survive its past crises and challenges. It has been an important ingredient in the stability of both Saudi Arabia and the Middle East. An aspect of this unity agreement is that the family does not have two brothers from the same faction ruling as king and crown prince.

The current leader, King Abdullah is nearly 90 and ailing. His likely successor is Crown Prince Salman, about ten years younger, who is one of the seven sons of King Abdulaziz's favorite wife, Hassa al Sudairi, known as the "Sadairi seven." Depending upon how long Salman rules, a likely candidate to be brought in as the next crown prince is Prince Sattam, who does not belong to a faction. Sattam, a son of first king, is in his early 70s and is the governor of Riyadh, the

Exhibit 2. Modern Royal Family Succession
SAUDI KINGS AND KEY PRINCES



Source: *Stratfor*

Kingdom's most important province. There are other future crown prince candidates, but at least one may be ruled out due to the policy of not having two ruling brothers from the same family faction.

It is important to watch for which third-generation brothers band together to assert themselves

With the aging of the second generation, it will be important to watch for which third-generation brothers band together to assert themselves and challenge the Sadairi third generation faction. Recently, the jobs of several sons of King Abdullah have been expanded to help provide a counter-weight to the Sudairis. The longer this second to third generation transition takes the greater the time for third-generation leaders to develop the governing skills for what will be a significantly changed society and economy.

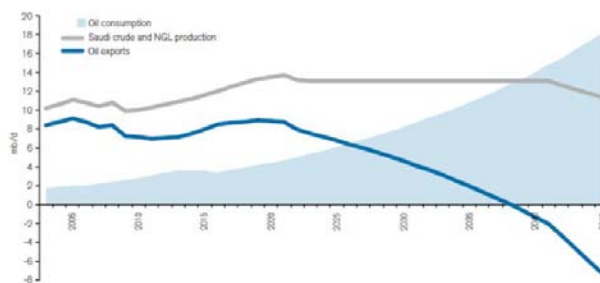
For nearly a century, the religious scholars (ulema) have enjoyed a virtual monopoly over what constitutes acceptable thought and behavior

The political stability of Saudi Arabia emanates from the House of Saud's ability to dominate public discourse with the aid of historical partners in the Salafist and Wahhabist religious establishment. For nearly a century, the religious scholars (ulema) have enjoyed a virtual monopoly over what constitutes acceptable thought and behavior. As social media gains a greater foothold within the country, the question of how the government will be able to control dissent and radical change will become more important. Given government and religious institutions enforcing the strict religious and moral codes issued by the Commission for the Promotion of Virtue and Prevention of Vice, there has been little opportunity for

The use of social media allows Saudi youth to develop alternative narratives about society, religion and politics

street demonstrations in Saudi Arabia in contrast to other Arab countries. However, dissent and challenges to the strict religious teachings is engaged in on the Internet and Twitter. The CEO of Twitter told the *Los Angeles Times* last July that Saudis were the fastest-growing group on the social networking site and that the number of Saudi Twitter users increased some 3,000 percent in June. The use of social media allows Saudi youth to develop alternative narratives about society, religion and politics. *Stratfor* suggests that today the Kingdom is experiencing the first substantive challenge to its religious and political order formed by the Saudi-Wahhabi alliance in 1744.

Exhibit 3. One View Of Saudi Oil Exports



Source: Chatham House research 2010. See Appendix 1 for assumptions and key sources.
NGL = natural gas liquids.

Source: Chatham House

The point of these studies is to highlight the impending collision of Saudi's internal consumption with its crude oil export needs

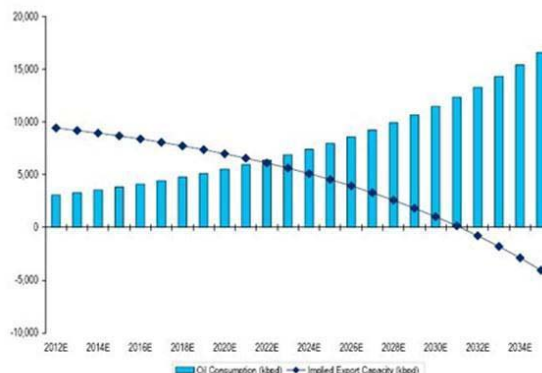
Changes within the Saudi oil industry and their impact on the Kingdom's economy have been studied for a while. We started several years ago pointing out that the rapid growth in Saudi's internal oil consumption and its long-term impact on the country's export capability would impact the country's financial condition. Last year, a study by Chatham House, and one by Citi Research this year have investigated this trend in significant detail. Unless trends change, Chatham House predicts Saudi Arabia could have zero oil exports by 2037. The Citi study says that fateful day could arrive as soon as 2032. Different assumptions and a year's time between the reports helps explain the five-year difference, but the point of these studies is to highlight the impending collision of Saudi's internal consumption with its crude oil export needs. Surprisingly not that many oil market observers have focused on the global implications of these changes.

Official oil reserve estimates are state secrets, so outsiders must always accept the "trust me" estimates

A problem for Saudi Arabia's oil business is that it has not announced a significant new oil discovery in more than two decades. That doesn't mean it hasn't grown its reserves, but the magnitude of the increases has been small. This is despite the fact that the country's public crude oil reserve estimates have remained essentially stable for the past thirty years. Official oil reserve estimates are state secrets, so outsiders must always accept the "trust me" estimates, which several years ago led the late-Matt Simmons to research Saudi's aging oil fields. He concluded there

Exhibit 4. Citi More Pessimistic For Exports

Figure 7. Sensitivity Analysis – Consumption Grows in Line with Peak Power Demand (kbpd)



Source: BP Statistical Review, UN & Citi Research

Source: Citi Research

In total, the government committed \$130 billion in spending, or nearly half its oil income, and about a 70% increase in government spending

was a significant risk of their production dropping precipitously and creating serious economic problems for the world. Mr. Simmons' research effort was met with strong push back from Saudi Aramco, the country's national oil company, which challenged the conclusions. So far, there are no signs of oil production problems.

For Saudi Arabia, to overcome the political dissent developing from the Arab Spring, the government stepped up infrastructure and socially-motivated spending. In February 2011, in response to the violence in Libya and Egypt, King Abdullah announced a \$10.7 billion social welfare package including pay raises for government employees, newly created jobs, and loan forgiveness schemes. By the end of the month the Kingdom had spent \$37 billion on these programs. In March, King Abdullah announced \$93 billion in additional spending, including \$67 billion for affordable housing. In total, the government committed \$130 billion in spending, or nearly half its oil income, and about a 70% increase in government spending.

Exhibit 5. Saudi Budget Into Deficit By 2015

	2011a	2012b	2013b	2014b	2015b	2016b
(% unless otherwise indicated)						
Real GDP growth	7.0c	5.3	4.3	5.0	4.8	5.1
Crude oil production ('000 b/d)	9,338c	9,750	9,600	9,640	9,750	9,950
Government balance (% of GDP)	14.1c	11.3	3.7	0.6	-0.1	-0.5

a Actual. b Economist Intelligence Unit forecasts. c Economist Intelligence Unit estimates

Source: EIU

Source: *Zawya.com*

The Economist Intelligence Unit projects that Saudi Arabia's traditional surplus budget will move into a deficit position as early as 2015, although the magnitude of the deficit should be small – 1% in

Saudi Arabia's oil exports account for about 90% of the government's revenues and directly accounts for 40% of the country's gross domestic product

2015 and 0.5% in 2016. The International Monetary Fund also concludes that the budget will shift into a deficit position but not before 2017. The increased spending and the prospect of flat oil prices accounts for the budget deterioration. Saudi Arabia's oil exports account for about 90% of the government's revenues and directly accounts for 40% of the country's gross domestic product. Indirectly, oil accounts for the majority of the rest of the economy. For the 28 million Saudi citizens, electricity, food, gasoline, housing and water are all subsidized, either directly or indirectly.

Saudi's population demographics reflect that 60% of Saudi's citizens are under the age of 20 and the unemployment rate for young adults is nearly 40%

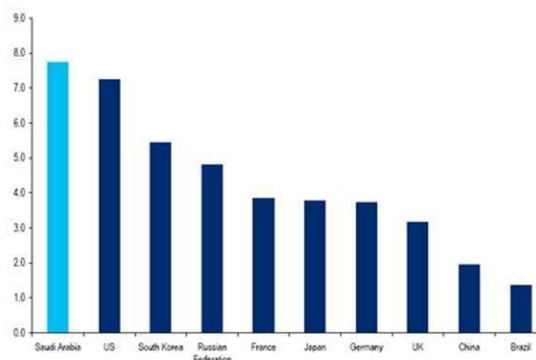
The growth of the Saudi population is a challenge for the government and its future stability. In 1972, the country had 6 million inhabitants, which by 1992 had grown to 17 million. Today there are 28 million citizens. Projections call for Saudi's population to grow by another 10 million by 2030. Saudi's population demographics reflect that 60% of Saudi's citizens are under the age of 20 and the unemployment rate for young adults is nearly 40%. Part of the problem for these youths is the growth in foreign workers who are willing to take lower level jobs from Saudis. From 2004 to 2010, the population of foreign workers in Saudi grew from 6.1 million to 8.4 million. Foreign workers dominate the private sector, including agriculture, construction and services. The huge spending on infrastructure projects in response to the Arab Spring has upped the number of foreign workers necessary to build construction projects. As a result, the Kingdom's dependence on foreign workers continues to grow creating further social pressures.

There are two options for Saudi Arabia – develop alternative energy sources to power the nation's electricity and water desalination plants, or encourage conservation either through higher prices (less subsidization) or mandatory use restrictions

An additional problem for the Saudi economy and its oil industry is the rapid growth in domestic consumption. *Stratfor* says Saudi uses 40% more oil per capita than the United States and more than three times as much as Germany or France. With continued population growth, domestic consumption will continue to grow rapidly. There are two options for Saudi Arabia – develop alternative energy sources to power the nation's electricity and water desalination plants, or encourage conservation either through higher prices (less subsidization) or mandatory use restrictions. The first option is probably the easier one for the government to implement. And it partially explains the increased effort to develop new natural gas fields along with increased investment in nuclear power plants and solar energy facilities.

Unless global oil prices climb rapidly, Saudi will be faced with declining revenues

If Saudi Arabia's crude oil production remains flat in the future and the country isn't able to restrain internal consumption for power and water desalination, the volume of oil available for export will decline. Unless global oil prices climb rapidly, Saudi will be faced with declining revenues, which can be offset for a period of time due to the country's \$533 billion of foreign holdings as of June 2012. This financial challenge for Saudi is also a challenge for the global oil market. The decline in exports, all other considerations remaining equal, would drive crude oil prices substantially higher. There are estimates that the increase in oil prices could approach the

Exhibit 6. Saudi A Prolific Energy User**Figure 4. Selected Countries — Primary Energy Consumption per Capita (toe), 2011**

Source: BP Statistical Review, UN & Citi Research

Source: Citi Research

Two of its neighbors – Iraq and Iran – have the potential to dramatically increase their oil output

If oil pricing power shifts to Iran or Iraq, either or both could opt to receive payment for their oil in a currency other than U.S. dollars

All of these economic and social challenges could arrive at the same time the third-generation of Royal Family leaders are assuming power

magnitude of the increase experienced during the 1973 oil embargo when oil prices rose by 300% over a six-month period. A similar percentage increase would drive global oil prices to \$250-\$300.

There are other long-term challenges facing Saudi from its declining oil exports. Two of its neighbors – Iraq and Iran – have the potential to dramatically increase their oil output. Yes, those increases will be dependent on improved political conditions, but if we assume that happens, then Saudi Arabia could face the prospect of relinquishing its role as the swing producer within OPEC that has enabled the country to significantly influence global oil prices.

This shift within OPEC could carry over to financial markets. It was the historical relationship between United States and Saudi Arabia that led to the pricing of oil in U.S. dollars. These petrodollars, which were a serious concern in the 1970s, have helped define the U.S. dollar as a reserve currency. If oil pricing power shifts to Iran or Iraq, either or both could opt to receive payment for their oil in a currency other than U.S. dollars. That could put significant downward pressure on the value of the U.S. dollar and create serious financial problems for this country.

Other long-term challenges Saudi Arabia could face include the growing production of natural gas globally and the increased use of it as a transportation fuel. That could contribute to existing customers for Saudi oil finding it of less strategic importance, especially if domestic oil production in locations such as the United States and Canada continues to increase and energy demand remains weak. All of these economic and social challenges could arrive at the same time the third-generation of Royal Family leaders are assuming power. Will they be able to manage the changes likely to occur within Saudi Arabia? Will they be able to control the pressures of the state budget shifting from surplus to deficit?

Exhibit 7. Black Swans Scenarios

Source: economicnoise.com

This change could coincide with an explosion of social unrest among the Saudi youth

For us, there are two possible Black Swan scenarios involving Saudi Arabia. Each would have significant implications for the world economy, the United States and global energy demand. First is that the extended Royal Family succession scenario is truncated by early deaths of the second-generation leaders forcing younger, less experienced third-generation leaders to assume running the Saudi government sooner than they anticipated. This change could coincide with an explosion of social unrest among the Saudi youth seeking changes in the country's religious and economic restrictions. These conditions would make the country a target for al Qaeda that wants to diminish or eliminate the Royal Family's support of the United States. During the social unrest and al Qaeda attacks, Saudi oil production would drop sending oil prices soaring and putting the global economy into a recession. The Middle East would become even less stable as almost all of the ability of the United States to influence events in the region is eliminated. This would prompt Israel to reassess its need for pre-emptive action against Iran to prevent their development of a nuclear weapon, which would further inflame the Middle East.

Iran is likely to demand that its oil and natural gas exports be paid for in a basket of global currencies more reflective of its trade patterns

The second scenario is that the coalition of western countries maintaining sanctions against Iran dissolves and the Iranian government is able to welcome western oil companies to exploit its oil and gas resources, thus altering the balance of power among the OPEC membership. Iran is likely to demand that its oil and natural gas exports be paid for in a basket of global currencies more reflective of its trade patterns. That means the Chinese Yuan will assume a more significant global role and become a reserve currency undermining the value of the U.S. dollar and putting significant downward pressure on America's economy as we struggle to finance our deficits and accumulated debt. This scenario, which takes much longer to unfold than the first one, will lead to an era of exceptionally slow economic activity with growing American social discontent.

Our first Black Swan scenario could happen equally as fast given the proper conditions, and our sense is that they exist just below the surface

As almost all the media's attention and that of analysts has been directed toward the recent violence in Libya and Egypt, virtually little thought has been directed toward the economic, financial and internal political risk for the U.S. from the first scenario. People should reflect on the magnitude of political and economic change that occurred during the first 90 days of the Arab Spring. Our first Black Swan scenario could happen equally as fast given the proper conditions, and our sense is that they exist just below the surface. In any case, we are probably looking at a slow decline in global power for Saudi Arabia, and with that decline, a further loss of influence in the Arabian world for the United States. Five to ten years from now, the role of Saudi Arabia and the U.S. will likely be different than it is today.

Is America Knocking On The Door Of Energy Independence?

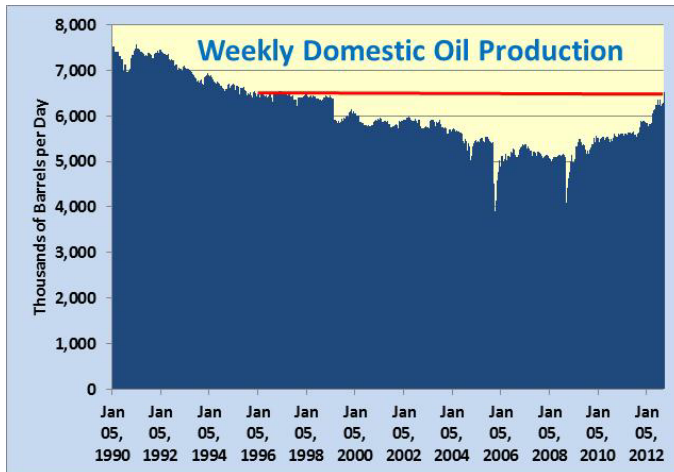
The shale revolution has transformed America's petroleum industry into an engine for hydrocarbon production growth

A phrase introduced into the modern lexicon by President Richard Nixon in the early 1970s was "energy independence." Ever since then, as the nation's domestic oil production declined and our natural gas output stagnated resulting in ever-increasing imports of foreign oil and Canadian gas, national politicians campaigned on plans to make America energy independent. Nearly 40 years after President Nixon uttered the phrase, the shale revolution has transformed America's petroleum industry into an engine for hydrocarbon production growth. With that additional oil and gas production, America's dependence on petroleum imports has declined. Increasingly, not only are the politicians talking about energy independence, but energy industry executives along with energy economists and consultants are also openly talking about the day when the U.S. meets all its power needs from domestic resources.

The EIA released data showing weekly domestic crude oil production had reached the highest level since January 1997 – some 15 years ago

In late September, the Energy Information Administration (EIA) released data showing weekly domestic crude oil production had reached the highest level since January 1997 – some 15 years ago. Reports are that despite the slowdown in drilling in the Bakken formation in North Dakota and Montana, production there should continue to rise during the second half of 2012. Two charts demonstrate the significance of the increase in domestic production. The first chart (Exhibit 8, next page) shows the weekly estimate of domestic crude oil production since January 1990 with a red line showing how the September 21 data compares with production in early January 1997.

Exhibit 8. Can We Get Production Back To 1990?

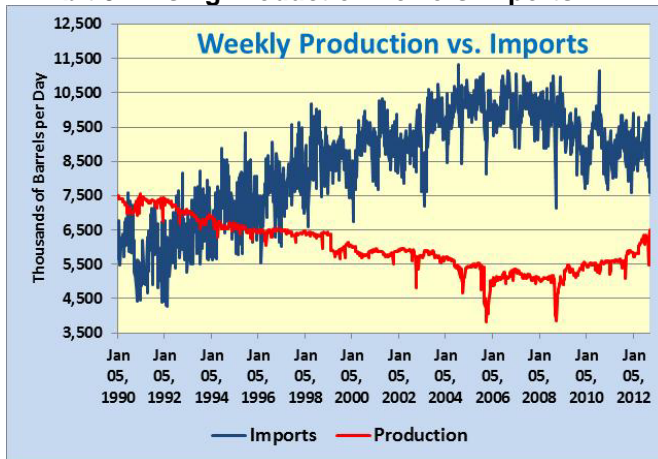


Source: EIA, PPHB

The peak in oil imports and subsequent decline coinciding with the bottoming of weekly oil production and its subsequent increase

The second chart (Exhibit 9) shows the weekly domestic production and the weekly oil import figures. That latter weekly data series is susceptible to considerable fluctuation due to market conditions and weather impacts on tanker operations. What is obvious from this chart is the peak in oil imports and subsequent decline coinciding with the bottoming of weekly oil production and its subsequent increase.

Exhibit 9. Rising Production Lowers Imports



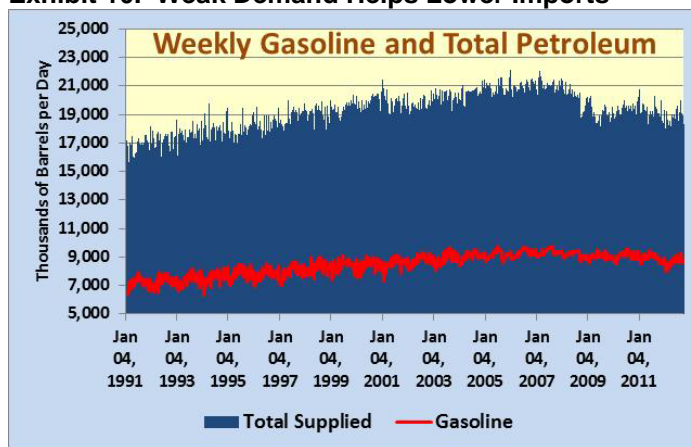
Source: EIA, PPHB

The decline in oil imports appears to be significant, but part of the explanation is that overall oil demand has dropped. That is shown by the chart in Exhibit 10. The chart shows total petroleum consumption and the weekly demand for gasoline. Gasoline demand shows slowing growth in 2007-2008 and then the beginning of a decline associated with the recession and changes in vehicle miles driven. The overall decline in petroleum consumption is

Any change to their recent trend – either up or down – will impact the nation’s goal of achieving energy independence

largely explained by this decline in gasoline consumption. Due to this relationship, we know that to understand the future of the oil market in the United States, one must watch gasoline consumption and domestic oil production. Any change to their recent trend – either up or down – will impact the nation’s goal of achieving energy independence.

Exhibit 10. Weak Demand Helps Lower Imports



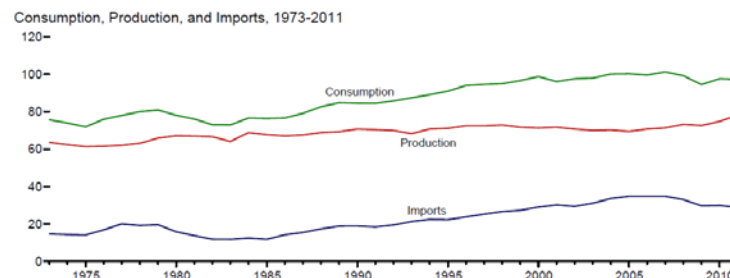
Source: EIA, PPHB

Optimists expect domestic energy production to continue to grow

The EIA’s recent data showed that America has achieved 83% energy self-sufficiency. Again, the explanation for this high level is due to the combination of flat consumption, rising domestic production (oil, gas, coal and renewables) and declining imports of oil and LNG. Optimists expect domestic energy production to continue to grow, but that assumption depends on governmental energy policies and the nation’s energy consumption, which in turn depends on the economy’s growth.

Exhibit 11. Achieving Self-Sufficiency Is Complex

Figure 1.1 Primary Energy Overview (Quadrillion Btu)



Source: EIA

Yes, the nation is knocking on the door of energy independence, but some of the recent gains are the result of weak energy demand. Reaching a higher level of national energy self-sufficiency may actually signal that we are more a hostage to a weak economy with

potentially significant social ills rather than having unlocked our true domestic energy potential. Reaching energy independence will likely remain an elusive goal for many years.

Driving, Gasoline Use And Texas Subject Of NRDC Study

Texas had four of the top ten counties in the U.S. in terms of total annual gasoline consumption

A study recently prepared by the Sierra Club, the League of Conservation Voters and the Natural Resources Defense Council attempts to understand what is behind the addiction of Americans to oil. To attempt to answer the question, the researchers focused on where gasoline consumption was the highest, believing that by isolating those offenders it would be easier to suggest alternative transportation solutions to driving. Not surprisingly, Texas had four of the top ten counties in the U.S. in terms of total annual gasoline consumption. I'm sure the researchers were not disappointed that their image of gas-guzzling Texans developed from the movie *Giant*, the television show *Dallas* and the Cadillac Farm near Amarillo, Texas, seems supported by our use of gasoline.

Exhibit 12. Famous Cadillac Farm Burial Ground

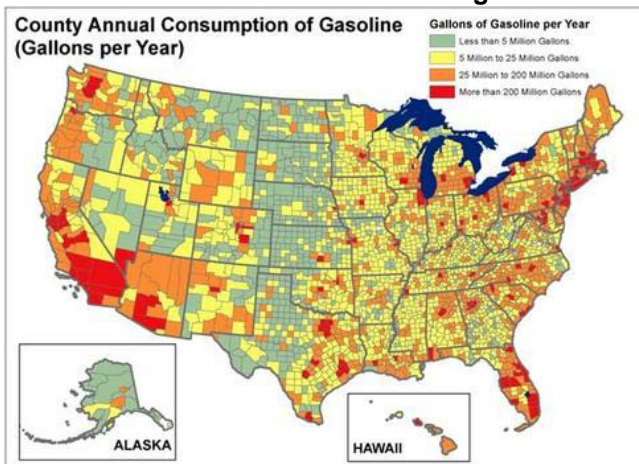


Source: *RoadsideAmerica.com*

By targeting those counties with the greatest consumption habit and developing alternative transportation options or alternative fuel sources, the country's energy and emissions habits can be altered

To prepare their study, the researchers compiled data for consumption of gasoline by county in the United States in 2010. This data enables the ranking of counties by total consumption and then the researchers could calculate per capita gasoline usage. The researchers believe that by targeting those counties with the greatest consumption habit and developing alternative transportation options or alternative fuel sources, the country's energy and emissions habits can be altered. That is not a bad approach to trying to shift attitudes about energy use, but we need to be careful that the analysis doesn't lead to false conclusions.

Exhibit 13. Where Gasoline Use Is High



Source: NRDC

That warning was an interesting red flag that begged further investigation of the supporting data and methodology

The researchers produced the table (Exhibit 14) of the top ten counties for annual and per capita gasoline use in their press release announcing the report. In the table in fifth place is St. Louis, which is estimated to have an annual consumption of 962 million gallons of gasoline and per capita use of 737 gallons. There is a warning attached to the table suggesting that there may be something wrong with the per capita usage data that may be due to “poor or inconsistent reporting” of the data. So readers were put on notice not to believe that calculation in either the table or the interactive map on the NRDC web site. That warning was an interesting red flag that begged further investigation of the supporting data and methodology.

Exhibit 14. Top Counties By Gasoline Consumption

	County/State	Annual Gasoline Use (thousands of gallons)	Gallons consumed per person
	NATIONAL AVERAGE	43,000	
10	Bexar/TX (San Antonio)	683,000	328
9	Tarrant/TX (Fort Worth)	759,000	339
8	Wayne/MI (Detroit)	771,000	297
7	Broward/FL (Ft. Lauderdale)	772,000	334
6	Miami-Dade/FL	939,000	291
5	St. Louis/MO	962,000	737
4	Dallas/TX	1,152,000	368
3	Cook/IL (Chicago)	1,584,000	230
2	Harris/TX (Houston)	1,687,000	323
1	Los Angeles/CA	1,883,000	147

Source: NRDC

When we went to the interactive map on the web site there was a link to data sources and methodology. When we clicked on the link we were directed to another page with the word “blocked” on it. That

meant we were not able to see where the gasoline data, county populations and the per capita consumption calculations came from. The legend for the consumption map in Exhibit 13, the color red is associated with those counties consuming more than 200 million gallons annually. What was interesting was the legend for the interactive map has many more categories of annual gasoline consumption per capita ranging from 100 gallons up to 6,000 gallons. The interactive map provided us the opportunity to examine in greater detail the numbers of the top ten counties plus others.

The four Texas counties in the top ten included Harris (Houston), Dallas (Dallas), Tarrant (Fort Worth) and Bexar (San Antonio)

A story about this report written by *The Houston Chronicle* highlighted that there were four Texas counties in the top ten. Those counties included Harris (Houston), Dallas (Dallas), Tarrant (Fort Worth) and Bexar (San Antonio). Of course, those counties essentially contain the associated cities that just happen to include three of the top ten cities in the United States ranked by population. Fort Worth was the 16th largest city in 2011 and Austin (Travis County) was the 13th largest city, but obviously must be a thrifty consumer of gasoline. Based on the population census, Austin (820,611) has about half a million fewer residents than San Antonio (1,359,758), but measured on per capital gasoline use, its consumption is about 4% greater (341.62 gallons vs. 328.33 gallons). Interestingly, when we looked at the populations of the respective counties – Travis and Bexar – both were larger than the city populations used to rank the top ten cities. Equally interesting is that Bexar has about 250 square miles more territory than Travis County. When you look at the square miles for each of the cities, they are a fraction of the county measures – 298 square miles vs. 990 for Austin/Travis County and 461 square miles vs. 1,585 for San Antonio/Bexar.

Harris County has nearly 3.9 times the population of Rhode Island and 69% more area (1,703 vs. 1,010 square miles), but used only 12.3% more fuel per capita

All of this analysis made us curious about how Rhode Island fared in this analysis. There are four counties in the state and the per capita gasoline consumption ranged from 102 to 409 gallons per year. If the state's total per capita gasoline consumption was calculated, it was 295 million gallons for a population of 1.007 million residents living in just over a thousand square miles. Harris County has nearly 3.9 times the population of Rhode Island and 69% more area (1,703 vs. 1,010 square miles), but used only 12.3% more fuel per capita. Another interesting comparison was the Manhattan section of New York City, which has 23 square miles holding 1.6 million people, had an annual per capita gasoline consumption of 61.9 gallons. That seemed surprising given the extensive mass transit system available.

Large populations in large geographic areas are the most likely to have the greatest fuel consumption

The environmental groups' effort to try to quantify who uses the most gasoline as a starting point for improving energy efficiency and reducing emissions produced few surprises. Large populations in large geographic areas are the most likely to have the greatest fuel consumption. The fact that we couldn't see the data sources and methodology raises concerns about possible flaws in the

calculations. It reminds us of the tax group that produced a sensational report on the low tax rate of high income versus low income filers earlier this spring. After their press release, we went to their web site and found that the data had been taken down and replaced by a sign saying they had found a mistake in their calculations and they would post revised data. We've never seen the revision, not a press release retracting their analysis. It makes you wonder about the sensationalism of their claim. Could this study be subject to similar data flaws? We doubt it, but can't be certain.

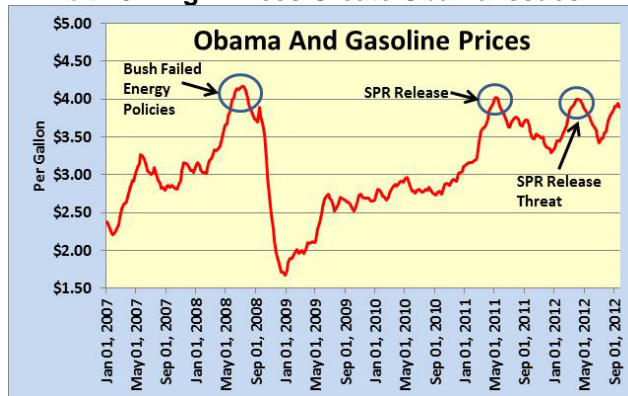
Why Aren't Gasoline Prices A Campaign Issue?

To sustain spending and deal with increased prices given stagnant income growth, consumers cut back on their savings

The Commerce Department reported August consumer spending data a little over a week ago. Spending was up 0.5% following the July increase of 0.4%, but rising prices, especially for gasoline that rose 2.0%, boosted inflation to the highest rate in 18 months and nearly wiped all the gains in spending. Real consumer spending (nominal spending minus price increases) advanced only 0.1%. To sustain spending and deal with increased prices given stagnant income growth, consumers cut back on their savings. That has negative implications for future consumer spending, which is responsible for about 70% of economic activity. The latest data suggests that consumer spending in this quarter will about equal the 1.5% reported for the second quarter of 2012 – not good news for job growth and energy demand.

Recently, a letter to the editors of *The Providence Journal* raised the question of why, according to the writer, the last time gasoline pump prices were over \$4 a gallon in 2008 there was media uproar and a bashing of the actions and energy policies of President George W. Bush, but today with \$4-plus prices there is silence? We have yet to see a response from the editors, but frankly we don't expect any, especially given the political bias of Rhode Island. Moreover, to respond to the issue could hurt the re-election chances of President Barack Obama.

Exhibit 15. High Prices Create Obama Issues



Source: EIA, PPHB

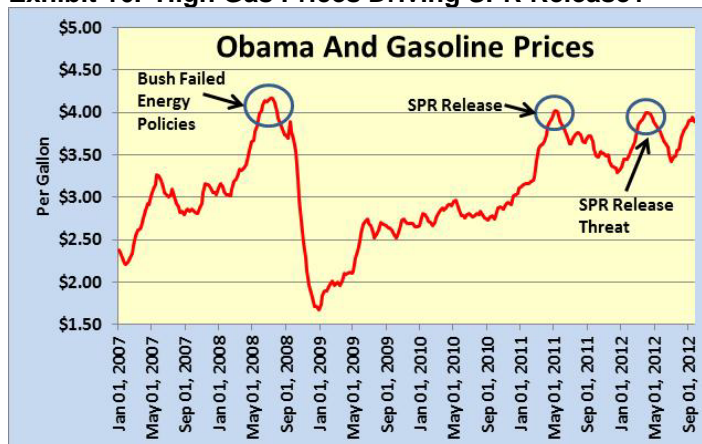
During the 2008 primary campaign against Hillary Clinton, candidate Senator Obama made a point of bashing the Bush administration for its failed energy policies that had produced \$4-plus gasoline prices

President Obama is reluctant to push his “green energy” agenda too hard in this election year, discouraging his environmental supporters while at the same time angering Americans paying higher gasoline prices

The letter got us thinking about how then-candidate and now President Obama has dealt with gasoline prices. During the 2008 primary campaign against Hillary Clinton, candidate Senator Obama made a point of bashing the Bush administration for its failed energy policies that had produced \$4-plus gasoline prices. He also attacked the billions in tax giveaways to the oil companies and linked those to the John McCain campaign. In 2008, when President Bush moved to eliminate the moratorium on offshore drilling, Senator Obama said that "it would merely prolong the failed energy policies we have seen from Washington for 30 years." He went saying that "Offshore drilling would not lower gas prices today, it would not lower gas prices next year and it would not lower gas prices five years from now."

Senator Obama, while campaigning said that America needs to change its attitudes toward energy before consumption can seriously be reduced. In a campaign speech he delivered in August 2008, Senator Obama said, "if we opened up and drilled on every single square inch of our land and our shores, we would still find only 3% of the world's oil reserves." Since becoming President, he has modified that view about drilling based on his misunderstanding of the role of petroleum resources and production, but he is reluctant to push his “green energy” agenda too hard in this election year, discouraging his environmental supporters while at the same time angering Americans paying higher gasoline prices.

Exhibit 16. High Gas Prices Driving SPR Release?



Source: EIA, PPHB

To see how this policy conflict has worked, we need only look at how President Obama has handled high gasoline prices. During his term in office, there have been two occasions when gasoline prices have reached or exceeded the \$4 a gallon threshold that unleashed the backlash against President Bush. The first time was spring 2011, and the Obama administration acted by releasing 30 million barrels of oil from the Strategic Petroleum Reserve (SPR) to drive prices down. Earlier this year, gasoline prices climbed sharply when they

Another SPR release will do little for drivers

traditionally don't and industry forecasts projected them reaching \$5 a gallon. The Obama administration's response was to talk about another SPR release within a context of "considering all our options."

The period of falling gasoline demand may be starting to end, which is happening at the same time refinery accidents have hampered refined product supply growth contributing to higher product prices. Increased oil production does little if it cannot be refined into gasoline and other products. Another SPR release will do little for drivers. Could an October surprise be the announcement of another SPR release in an attempt to drive oil prices lower?

Are GM's Volt Sales Figures Being Manipulated?

GM has admitted that two-thirds of Volt sales in July and August were leases for which GM has provided strong incentives

General Motors (GM-NYSE) reported August vehicle sales up 14%, and in doing so, it trumpeted that the Chevy Volt sales reached a record. GM sold 2,831 Volts in the month, which surpassed the previous record month of March when it sold 2,289 vehicles. That month followed California's approval of the "green" Volt for use in the state's high occupancy vehicle lanes with only one person. Many promoters of electric vehicles (EV) were in the media and on blogs blasting critics of the Volt claiming that the sales figure demonstrated there was a market for the car and that the market was growing. But what has happened since then is that analysts started digging into the sales figures. GM has admitted that two-thirds of Volt sales in July and August were leases for which GM has provided strong incentives. This lease volume is higher than the average of 40% during the rest of the year. The new low-cost, 24-month lease for a Volt costs either \$279 or \$199 per month with a \$2,419 down payment. There are advertisements on the web by Chevy dealers offering Volt leases with monthly payments as low as \$169 per month.

The DOD has agreed to buy 1,500 Volts this year

According to media reports, the federal government has purchased 182 Volts so far this year, or approximately 23 per month. The Department of Defense (DOD) has agreed to buy 1,500 Volts this year, but we don't know whether or how many they have bought. There is a report that Andrews Air Force Base just purchased 18 Volts. Corporate sales are estimated at about 5% of the monthly volume. If we apply all these data points to the August sales figure, we arrive at about 850 Volts sold to individual buyers, assuming no DOD sales during August. At that volume, it means GM would sell about 10,000 Volts, well below its target sales volume of 40,000 projected for 2012.

An interesting point was that the record sales month for the Volt came just as GM announced it would close down the Detroit-Hamtramck assembly plant

An interesting point was that the record sales month for the Volt came just as GM announced it would close down the Detroit-Hamtramck assembly plant that builds the car for four weeks starting September 17th. This is the second time this year that GM has shut down the Volt plant, raising questions about the underlying demand for the car. The assembly plant shutdown comes at the same time

Toyota said it expected to sell several thousand eQs, but now anticipates selling only 100

Toyota (TM-NYSE) announced it was shutting down plans for a wide-scale launching of a second EV model – the eQ. In 2010, Toyota said it expected to sell several thousand eQs, but now anticipates selling only 100 in the U.S. and Japan. The only EV Toyota will introduce this year is a new RAV4 model developed with Tesla Motors (TSLA-NASDAQ), which in turn is experiencing major revenue shortfalls due to problems developing its own EV.

Toyota cited a drastic misreading of the EV market and the capabilities of EVs

Toyota cited a drastic misreading of the EV market and the capabilities of EVs. As Toyota's Vice Chairman Takeshi Uchiyamada told reporters, "The current capabilities of electric vehicles do not meet society's needs, whether it may be the distance the cars can run, or the costs, or how it takes a long time to charge." GM executives cited EV prices as an impediment for the market's development, although they remain positive on EVs and the Volt, in particular. In response to a *Reuters'* article citing industry and manufacturing analysts estimates that the cost to build Volts is between \$75,000 and \$88,000 against a base selling price of \$39,995 before a \$7,500 tax credit for buyers, GM issued a press release disputing the claims. GM has acknowledged that the Volt is losing money and it won't be profitable for several years.

The sales figures belie the true retail demand for the Volt

Some auto industry analysts point out that of the 263 vehicle models sold in the U.S., the Volt, with 13,497 units sold so far this year, ranks 133rd in the industry meaning many other models have sold fewer units. This is presented as evidence that the Volt's low sales volume is not a significant issue because of where the car ranks in the industry. Of course, the sales figures belie the true retail demand for the Volt. Other EVs are also having problems meeting optimistic sales projections, especially in light of relatively high gasoline prices. The real problem is that there are many more high-mileage vehicles choices available such as the Chevy Cruze, the gasoline equivalent of the Volt, and other manufacturers are favoring hybrid vehicles. The Cruze sold nearly tenfold the number of Volts in August and it has sold 154,813 units year-to-date. The car sells for about \$18,000 and gets an estimated 39 miles per gallon, making it an attractive alternative to the expensive Volt.

We are sure no GM executives would ever admit they were subsidizing Volt leases to help re-elect their boss, President Obama

Other analysts point to the success of the super-cheap leases as deflecting criticism about the Volt, and in turn President Obama's green energy agenda, during the campaign. We are sure no GM executives would ever admit they were subsidizing Volt leases to help re-elect their boss, President Obama, and his environmental agenda. The concern is that since the U.S. government still owns 500 million shares or roughly 26.2% of GM, and continues to exercise control over executive pay and other benefits as pointed out in a recent op-ed in *The Wall Street Journal* authored by Ed Whitacre, the former chairman and CEO of the company, executives may well be acting in ways beneficial to special interests, just as the government did when it bailed out GM in 2009.

The Energy Debate According To VP Joe Biden

While he gets some of his facts right, Mr. Biden often misses their significance

The weekend before last, Vice President Joe Biden was campaigning in Florida where he attacked the Republican views on energy while hailing the actions of the Obama administration. *ABC News* reported on the talk in which Mr. Biden chastised the Republicans for not understanding the role that conservation plays in reducing energy demand. While he gets some of his facts right, Mr. Biden often misses their significance. For example, he said the following about the Republican energy plan and drilling: "I love to hear them talk about their energy policy, which is 'drill baby drill,' right? OK, now let me say something about drilling. You all realize that there are more gas and oil rigs working today, pumping today, than all the rest of the rigs in the entire rest of the world. Do you know that? That's a fact. That's why we're importing less than we have in decades, that's why we're in the position we're moving in."

Yes, there are more domestic rigs working than internationally, roughly 1,850 versus 1,600, but that only explains a portion of the decline in U.S. oil imports. There is a small issue of falling demand due to a weak economy.

Mr. Biden went on to chastise Republicans for voting against the increase in fuel economy standards but somehow he wanted to talk about natural gas and renewable fuels. Natural gas and renewable fuels for electricity could have a relation to increased mileage standards, but that is more of a stretch than focusing on oil. "Ladies and gentlemen, there is an exponential, exponential supply of natural gas done right and renewable energy that's here in this country," Mr. Biden said. "That's why we doubled - and they voted against it - and Romney talked against it, we doubled the fuel economy standards for cars and trucks by 2025. That will save 12 billion barrels of oil over the period of time. I don't know how they don't think conservation is part of this. They, they sure don't know it."

He would explain to his audiences about how the federal government is going to skew the fuel standards by granting auto makers higher credits for electric and hybrid vehicles sold

If Mr. Biden is honest about the increased fuel standards, he would explain to his audiences about how the federal government is going to skew the fuel standards by granting auto makers higher credits for electric and hybrid vehicles sold, despite the fact consumers don't appear to want them. The reality is the government is doing this to allow domestic car builders such as GM (GM-NYSE) and Chrysler to sell gas guzzlers, which seem to be the only vehicles they can build while earning a profit. Hypocritical? Sure, but that is nothing new for the Obama administration.

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