Joint Economic Committee
Republicans
Senator Sam Brownback *Ranking Member*
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Republican Staff Commentary

Self-Denial of Domestic Oil & Gas Resources Puts the Nation at Risk

October 18, 2010

- An oil price spike could stall the economic recovery and the return to full employment.
- After the worst post-war recession, the oil price is $80/barrel. That is more than triple the midpoint of OPEC's targeted price range until 2003.
- Drilling bans (either formal or de facto through slow permitting) are a blunt instrument. They do nothing to balance the costs and benefits of developing our domestic resource potential.
- The Gulf moratorium puts the largest U.S. oil & gas development area at risk. Less domestic production means higher oil costs and larger import payments—to foreign state owned oil monopolies.
- A major oil supply disruption could wreak havoc on the world oil market. Every barrel of domestic supply then would be crucial for economic as well as national security.

What nation imposes domestic drilling bans when it has to *import* oil? In 1982 when the oil price was declining, Congress instituted drilling bans on the outer continental shelf (OCS) off the Atlantic, Pacific, and Eastern Gulf of Mexico (GOM) coasts and kept them in place for two and one-half decades while the price was relatively low. In 2008, following an oil price spike to nearly $150 per barrel, however, Congress allowed its drilling moratoria to expire after the Bush Administration ended an executive drilling moratorium.[1]

As environmental protection, widely cast bans are a blunt instrument. When the price of a resource is low, it may not be worth the effort to conduct case-by-case assessments for granting approval to find and develop deposits whose commercial value may not exceed the cost of regulation and environmental safeguards, but that is not true when the price is high. Today's high oil price and the very real danger of further price increases justify incurring the administrative, regulatory, and environmental protection costs to safely unlock many of America's natural resources. In March, the Obama Administration took steps toward two lease sales off the coasts of Alaska and Virginia. Yet after the Macondo well blowout, it not only reversed itself but also *extended* the no-drill policy to the Western Gulf of Mexico with a formal six-month moratorium in deep water and by slow-rolling drilling permits in shallow water. On October 12, the Administration lifted the deepwater ban, but it is unclear when and at what rate it will reissue permits. A de facto no-drill policy in a volatile oil market would make America's future energy supply much less secure.

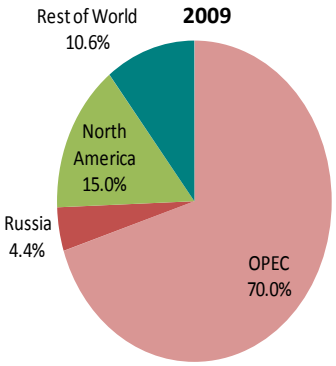
Oil price increases pose a risk to the recovery. Of immediate concern is that no one knows how fast and how high the oil price could rise again. When the oil price spiked above $145 per barrel in the summer of 2008, the United States had been in recession for six months. The year had started with a price of about $90 and proceeded to rise by another 60 percent in seven months. Economic growth continued in Asia, which appeared to have

[1] A 2006 law still bans drilling within 125 miles off Florida's western coast until the year 2022.

"decoupled" from the U.S. business cycle. Had the financial crisis not plunged the world into recession, no one knows how high the oil price would have risen and whether it would have driven the U.S. economy deeper into recession. The obvious danger now is that the oil price will spike again as the U.S. economy recovers and stall the return to full employment. At 9.6 percent U.S. unemployment rate, oil had stood above $70 per barrel and it just rose above $80 per barrel. What will it be, say, at 6.6 percent U.S. unemployment rate?

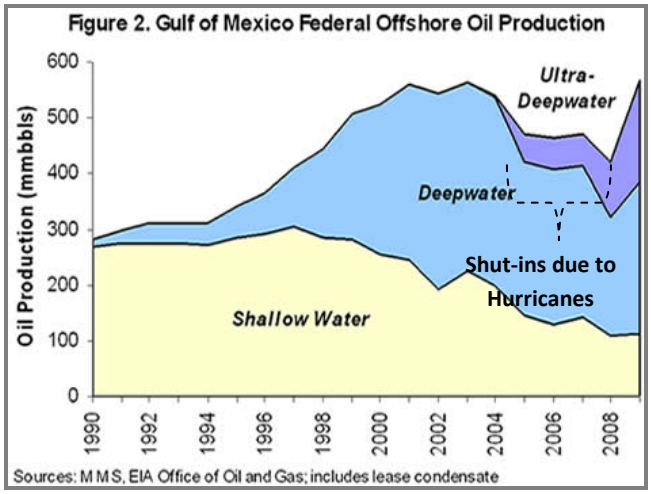
The world oil market is manipulated. The cost of oil production is $5 per barrel or less in the Persian Gulf and less than $10 per barrel among other major OPEC members. Until 2003, OPEC had targeted a price range of $22 to $28 per barrel, but since then has relentlessly tested the market's ability to absorb higher prices. Russia is the world's second largest oil exporting nation.[2] Just prior to the global financial crisis, the government had sought to coordinate oil output decisions with OPEC. The cartel and Russia together control 75 percent of proven world oil reserves (Figure 1). Even in the face of an excruciatingly slow economic recovery, OPEC's Secretary-General Abdalla Salem el-Badri has characterized an oil price of $75 as "comfortable." Oil importing nations may count their blessings—for now—as he believes it *premature* to talk of higher prices, given the "brittle" state of the current economic outlook.[3]

Figure 1 PROVEN CRUDE OIL RESERVES



Source: *Oil & Gas Journal*. December 21. 2009.

Private industry will search for oil and gas at home while foreign governments constrain the supply abroad to drive up prices. The larger the oil supply that competes with OPEC is, the more market share the cartel has to sacrifice in order to support a given price target. OPEC's price target jumped up from around $25 because world oil demand increased and non-OPEC supply did not keep pace. If faced with a significant market share trade-off, the cartel will temper its price objective. North America holds 15 percent of proven world oil reserves (including Canadian oil sands) and vast, but yet undiscovered oil and gas resources. The U.S. OCS holds an estimated 86 billion barrels of undiscovered oil and 422 trillion cubic feet (TCF) of undiscovered natural gas. On federal land, the estimates are 24 billion barrels and 214 TCF for totals of 110 billion barrels and 636 TCF under the direct control of the federal government.[4] (For comparison, U.S. oil consumption is about 6.8 billion barrels per year.)



At present, long-dated oil futures prices for delivery dates starting five years from now already exceed $90 per barrel. As long as investors expect prices to rise, they will pursue much of the domestic resource potential, even if the costs to find, extract, and produce the resources in an environmentally safe way at home are higher than the current

[2] From 2000 to 2006, Russia was the largest contributor to world oil supply increases, counting both the OPEC cartel and non-OPEC oil-producing countries, as it recovered from declines during the 1990s after the Soviet Union disintegrated. Since 2006, Russia's rate of oil production changed little, and it is unlikely that it will significantly increase the oil supply going forward.

3 *The Wall Street Journal* (September 20, 2010).

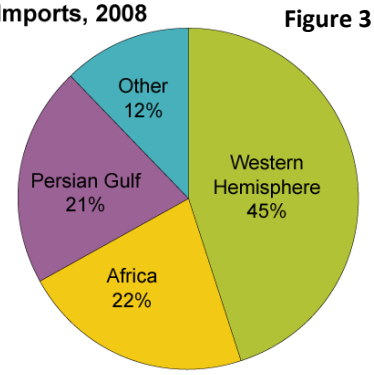
[4] "Inventory of Onshore Federal Oil and Natural Gas Resources and Restrictions to Their Development, Phase III Inventory—Onshore United States, 2008," U.S. Departments of the Interior, Agriculture, and Energy, Introduction, p.1.

market price. The Thunder Horse, Tahiti, Shenzi, and Atlantis offshore fields in the Western GOM, which heretofore had not been subject to federal drilling moratoria, have been the primary contributors to U.S. oil production growth in 2009 and 2010.[5] These fields were discovered about a decade earlier when the price of oil was much lower than today. This year, the United States will be the largest source of oil supply growth outside of OPEC on the strength of offshore production that has continually moved into deeper waters (Figure 2). Fully 40 percent of proved oil reserves in the GOM's federal OCS were in deep water (>1,000 feet) and another 40 percent in ultra-deep water (>5,000 feet) at the end of 2008.[6] These reserves, along with the 110 billion barrels of potential oil and the 636 TCF of potential natural gas reserves across the nation can boost our future energy supply—unless the government prevents it. What the United States needs are environmental and energy development policies based on cost-benefit analyses that allow investors in North America to find and ultimately sell more petroleum. Doing so will have the effect of counteracting the market power exercised by foreign governments and mitigating future oil price increases.

Import quotas in reverse. Drilling bans act like import quotas in reverse: they constrain future domestic production that is less expensive than imports. Assuming for illustration an all-in OCS production cost of $50 per barrel, then for each imported barrel that could be produced domestically but for earlier drilling bans the U.S. economy incurs a net loss of $25 if it pays $75 on the world market. The U.S. in recent months has been importing crude oil and petroleum products at a rate of about 12 million barrels per day (b/d). If domestic sources could replace just 5 percent of total petroleum imports at that rate, the country's annual payments to foreign sources would be $16 billion less and the economy would realize an annual net cost saving of $5.5 billion. In 2008, when the average price for imported crude oil was $93 per barrel, having replaced 5 percent of the petroleum imports would have cut oil import payments by $22 billion and saved the economy $10 billion (again assuming an incremental domestic cost of $50 per barrel).[7] The bans perversely lead to higher oil imports, more money paid to foreign suppliers, and higher cost. This holds true even ignoring the moderating effect that the incremental supply would have on world oil prices, which could save billions of dollars more.

National security. In 2006, the GAO had estimated that a closure of the Strait of Hormuz could cause an oil price spike to $230 per barrel in the first month of a 3-month disruption.[8] Depending on the circumstances, a major oil supply disruption also could cause national governments to seize oil shipments. The majority of U.S. oil imports are from outside the Western Hemisphere (Figure 3). Outside of North America, governments already hold exclusive ownership of oil and gas fields and control their production volume. The world oil market as we know it could cease to function and imports could become unavailable at any price. Domestic energy supply then would take on even greater importance for the economy and the military. Unfortunately, Congress could not make new production appear overnight from undiscovered and undeveloped oilfields, no matter how much oil and natural gas they hold.

Sources of U.S. Net Petroleum Imports, 2008 **Figure 3**



Source: U.S. Energy Information Administration.

[5] "Short-Term Energy and Summer Fuels Outlook," April 2010, Energy Information Administration (EIA).

[6] "This Week in Petroleum," EIA, May 26, 2010, p. 3.

[7] The U.S. imported 3.6 billion barrels of crude oil and 1.1 billion barrels of petroleum products in 2008. The illustration treats petroleum products and crude oil alike for simplification. Five percent of 4.7 billion barrels is 644,000 b/d in additional domestic production, which is conservative. The EIA has estimated that removal of the Congressional OCS drilling moratorium allows more crude oil production in the Pacific after 2016, in the Atlantic after 2021, and in the Eastern Gulf of Mexico after 2025 for a combined increase in output of 700,000 b/d by 2035 (Annual Energy Outlook 2010, p. 75).

[8] "Strategic Petroleum Reserve," Report to Congressional Requesters, August 2006.

Conclusion. Progressive industrialization, electrification, and motorization of the world's 6.5 billion people will drive up the demand for oil. For the country to deny itself the use of its resources in view of this onslaught of future demand invites higher oil prices and the kind of price volatility that could threaten economic growth. The country will incur higher oil costs and pay more money to foreign governments for oil imports than necessary. Outside of the U.S., no other country would practice such self-denial, not even pristine Norway, which happens to be the world's sixth largest exporter of oil and second largest exporter of natural gas.

Wind, solar, and bio fuels cannot meet the energy demand increases in the timeframe one has to anticipate. Wind and solar account for less than 1 percent of the total domestic energy supply. They can make a growing contribution to supply, but while their cost may decline and technology may increase their scalability in time, one cannot count on a surge in their supply potential. Besides, they surely will encounter unforeseen problems and constraints of their own as biofuels already have.

Drilling bans and similar obstacles to resource development are thwarting not only future oil production but also future natural gas production. Natural gas is a far cleaner fuel than oil and its proven reserves have been increasing in the U.S. thanks to advancements in drilling technology. Natural gas may be an excellent bridge from the predominant use of coal and oil to an energy supply not based on fossil fuel. But that bridge cannot be built if we don't allow drilling.