

My comments on the Proposed Five Year Leasing Program is presented in four parts.

Impact of Shale Natural Gas on OCS Natural Gas Production

The emergence of domestic shale natural gas from places like Pennsylvania is a game changer. The proposed program acknowledges the its existence, but fails to start to reflect how it will impact OCS activities. First some perspective. The 2011 OCS National Assessment has a mean estimate of Undiscovered Technically Recoverable Resources (UTRR) at 398 TCF on the OCS. Which is broken down into 131 TCF off Alaska and 267 TCF off the lower 48. A recent study done for the Energy Information Administration estimates 750 TCF of UTRR for shale gas in the lower 48. In the lower 48 the shale natural gas potential is almost three times larger than the OCS! Because the abundance of natural gas supply the private sector is actively pursuing the export of natural gas via LNG. DOE has already approved one license for export from a facility in Louisiana. More applications are under review. If all these licenses are approved it would represent almost 10% of domestic production. That is the approximate share of domestic production from the OCS.

Large scale LNG export is an open question. It is a capital intensive endeavor and LNG tankers are a scarce resource. The abundant domestic natural gas could be used as a transportation fuel as advocated by the Picken's Plan. It could also replace dirty coal for electric power generation. This is a question outside the responsibility of BOEM. Now addressing specifically the impacts to Alaska OCS and Gulf of Mexico (GOM) natural gas production.

At Prudhoe Bay there is over 20 TCF of natural gas reserves. To the west there is over 10 TCF in reserves located at the Mackenzie Delta. The gas reserves at both these locations is stranded. That is there is no transportation system to take it to market. This proposed Five Year Program indicates the potential of an additional 10 TCF from Chukchi and Beaufort. The classic plan has been to construct a pipeline system to gather the natural gas and ship it to the mid-continent to hook into the existing US-Canadian distribution system. The Draft Five Year

documents suggests the natural gas will travel down the Trans Alaska Pipeline Systems (TAPS) and then be shipped by tanker to the west coast. That is the current scenario for crude. This route is currently incapable of transporting natural gas. The TAPS/tanker and the pipeline to the mid-continent concepts are no longer economically viable. The abundant shale natural gas of the lower 48 means that sending Alaska natural gas to the lower 48 is not going to happen. The question is then what is the fate of Alaska natural gas? There are two choices. The gas remains stranded or it is exported. A logical concept would be to export the gas via LNG to Asia. Natural gas in Japan is currently five times more expensive than in the lower 48.

Whatever scenario that BOEM decides to adopt for Alaska natural gas's future, the Net Benefits Analysis for Chukchi and Beaufort need to be totally redone to reflect the current reality of the North American natural gas market.

Now turning to the Gulf of Mexico (GOM), in this case the future of the market for natural gas is less clear. It could be exported via LNG, used to replace oil as a transportation fuel, or replace coal as the source for electricity generation. BOEM needs to make a decision, so that the net benefits analysis will reflect the emergence of shale gas. The direction the private sector appears to be headed towards is LNG export. As stated previously the first approved LNG facility is located in Louisiana, the center of GOM natural gas production. Further the LNG export capacity from the permits approximate the production of the GOM OCS. Circumstances point to onshore production supplying domestic lower 48 needs and GOM OCS natural gas to be exported. The net benefits analysis again would need to be redone. Figure 1 and 2 display what the new consumer surplus graph would look like under the export of GOM OCS natural gas scenario.

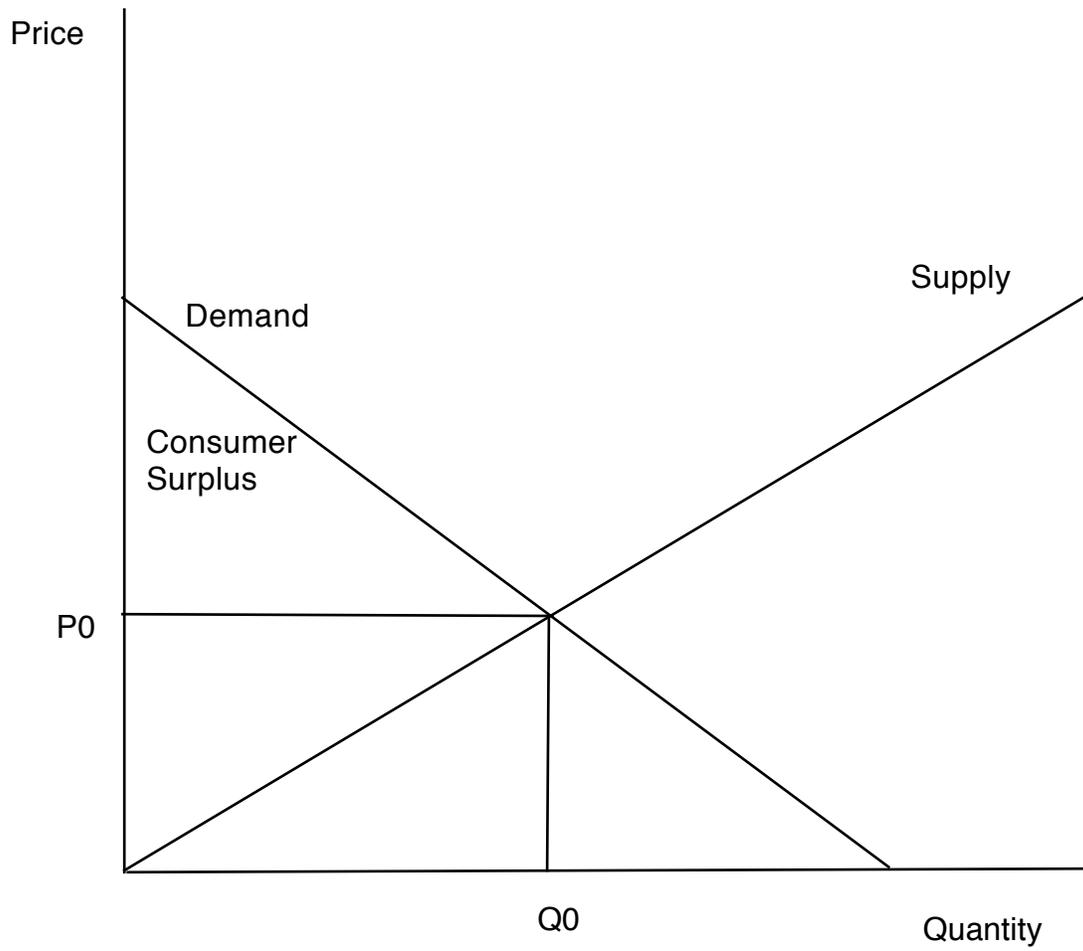
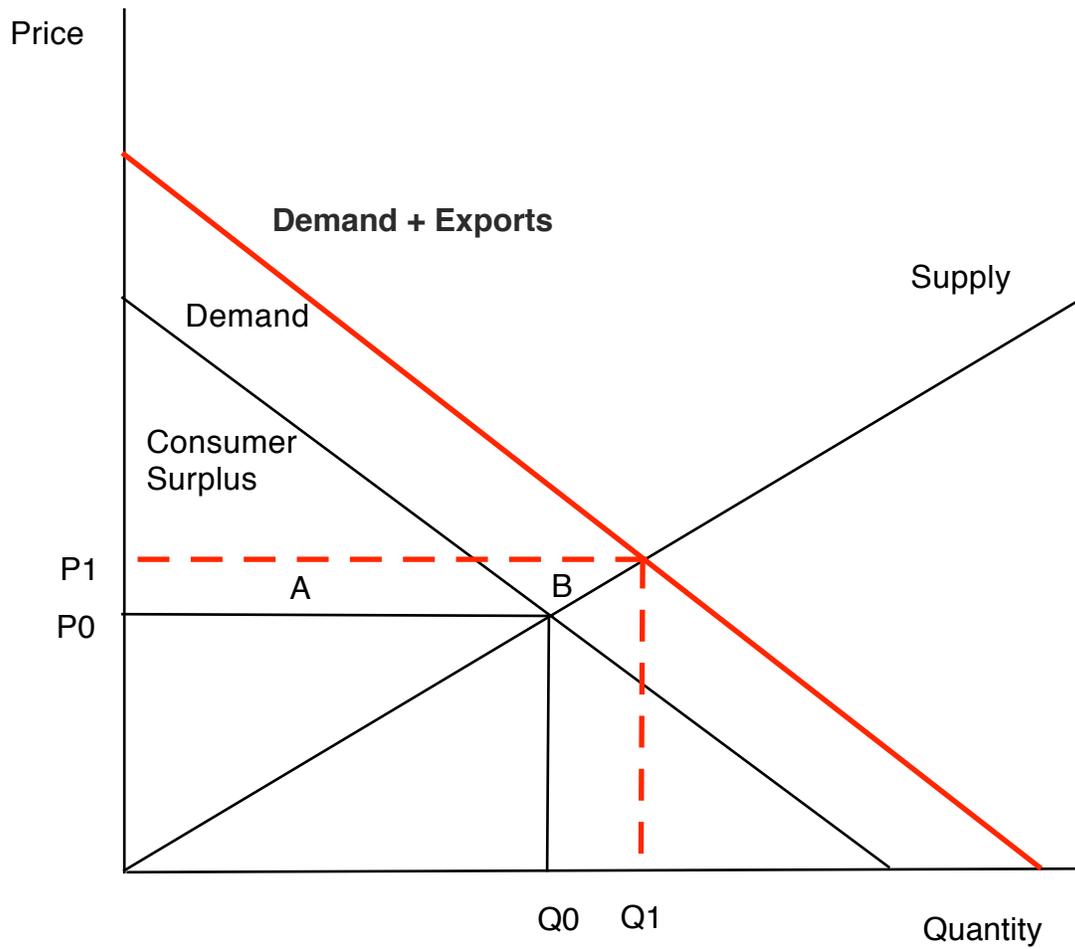


Figure 1 - Base Case Consumer Surplus



A: Consumer Surplus that becomes
 Producer Surplus with Exports.

B: Gain in Producer Surplus from
 Exports

Figure 2 - Consumer Surplus with GOM exports

Area Wide Leasing (AWL) Study

In previous Five Year Program cycles the State of Louisiana complained about AWL process. In response MMS (now BOEM) undertook a major study of the topic. That study was completed in 2010. This study examined a dozen potential alternatives to AWL and BOEM concluded that the AWL approach is still the most appropriate. However BOEM will monitor the AWL system and will be modifying parameters such as the Minimum Bid and Rental Rates to achieve their objectives.

However, BOEM failed to notice a superior policy option displayed in the report. In the Appendix to the Technical Report there are a set of sensitivity runs. In particular the fourth sensitivity run had some remarkable characteristics:

- Increased production
- Increased revenue
- Decreased environment/social costs

From a policy development perspective this is a superior choice with more benefits and less cost! The fourth sensitivity run is delay all leasing by a year and deep water leasing by two years.

The correct interpretation of the AWL Study is to continue with AWL, but slow down the pace of it. The tables from the AWL study follow for ready reference.

Table IV-A-2. Sensitivity Analyses for Leasing Conditions in Percentage Terms

Goal 1. Expeditious and Orderly Development of OCS Resources

Criteria	Status Quo	Sensitivity 1	Sensitivity 2	Sensitivity 3	Sensitivity 4	Sensitivity 5	Sensitivity 6	Sensitivity
	Current Leasing System	Lower Oil Price (\$50)	Higher Oil Price (\$120)	No Technology Change	Delay: 1 Year All Fields, 2 Years Deepwater	No New Fields	Increase New Fields (4.4%/Yr)	Federal Tax Rate 35%
Total Production (MMBOE)	206,328	-29.6%	15.2%	-9.2%	0.8%	-88.7%	282.3%	-1.5%
Discounted Production (MMBOE)	10,874	-35.8%	30.2%	-5.6%	0.6%	-62.2%	137.7%	-4.6%
Fields Discovered	3,278	-6.1%	3.0%	-5.1%	0.8%	-71.5%	226.2%	0.0%
Exploration Wells	19,910	-14.2%	7.8%	2.4%	-1.6%	-46.3%	46.6%	0.0%
Development Wells	37,203	-30.3%	16.6%	10.7%	0.9%	-85.4%	265.3%	-1.7%
Production Wells	86,663	-30.4%	16.7%	10.9%	0.8%	-86.0%	266.4%	-1.9%
Ave. Annual Number of Tracts Offered	5,598	0.0%	0.0%	0.0%	-4.2%	0.0%	0.0%	0.0%
Average Annual Tracts Sold	337	-5.2%	2.6%	5.0%	-1.4%	-65.6%	131.1%	0.0%

Goal 2. Obtain Fair Market Value for Leased Resources

Criteria	Status Quo	Sensitivity 1	Sensitivity 2	Sensitivity 3	Sensitivity 4	Sensitivity 5	Sensitivity 6	Sensitivity
	Current Leasing System	Lower Oil Price (\$50)	Higher Oil Price (\$120)	No Technology Change	Delay: 1 Year All Fields, 2 Years Deepwater	No New Fields	Increase New Fields (4.4%/Yr)	Federal Tax Rate 35%
Discounted High Bids	\$ 196,944	-61.5%	58.3%	-10.5%	2.9%	-75.0%	191.4%	-18.6%
Discounted Royalties	\$ 198,019	-62.1%	66.1%	-6.5%	0.7%	-70.9%	175.0%	-4.2%
Discounted Area Rental Payments	\$ 30,524	-4.2%	2.2%	16.2%	-6.4%	-56.9%	61.1%	0.0%
Discounted Profit Share								
Total Discounted OCS Revenues	\$ 425,487	-57.7%	57.9%	-6.7%	1.2%	-71.8%	174.4%	-10.5%
Discounted Federal Taxes	\$ 41,459	-85.5%	94.4%	-15.8%	3.5%	-90.2%	243.8%	223.7%
Total Discounted Revenues	\$ 466,946	-60.1%	61.1%	-7.5%	1.4%	-73.4%	180.5%	10.3%
Percentage Government Take	50%	11.2%	-3.2%	2.2%	0.2%	11.5%	-4.2%	-5.9%

Table IV-A-2. Sensitivity Analyses for Leasing Conditions in Percentage Terms (Con't)

Goal 3. Promote Competition

Criteria	Status Quo	Sensitivity 1	Sensitivity 2	Sensitivity 3	Sensitivity 4	Sensitivity 5	Sensitivity 6	Sensitivity
	Current Leasing System	Lower Oil Price (\$50)	Higher Oil Price (\$120)	No Technology Change	Delay: 1 Year All Fields, 2 Years Deepwater	No New Fields	Increase New Fields (4.4%/Yr)	Federal Tax Rate 35%
Bids per Tract	1.62	-13.7%	7.2%	-7.1%	0.9%	-21.3%	25.4%	-1.6%

Goal 4. Equitable Sharing of Costs and Benefits of Offshore Leasing

Criteria	Status Quo	Sensitivity 1	Sensitivity 2	Sensitivity 3	Sensitivity 4	Sensitivity 5	Sensitivity 6	Sensitivity
	Current Leasing System	Lower Oil Price (\$50)	Higher Oil Price (\$120)	No Technology Change	Delay: 1 Year All Fields, 2 Years Deepwater	No New Fields	Increase New Fields (4.4%/Yr)	Federal Tax Rate 35%
Revenue Sharing with Coastal States ¹	\$ 131,013	-59.9%	58.2%	-9.2%	0.3%	-79.4%	203.6%	-10.0%
Onshore Economic Impacts	\$ 60,119	-27.4%	17.4%	9.1%	-2.6%	-44.8%	81.5%	190.8%
Discounted Environmental/Social Costs	\$ 866	-44.6%	12.3%	-18.6%	-13.3%	-67.4%	104.9%	48.7%

¹ These calculations do not consider the limit on revenue sharing under GOMESA §105(f)(1).

Table IV-A-2. Sensitivity Analyses for Leasing Conditions in Percentage Terms (Con't)

Goal 5. Facilitate Regional Planning and Minimize Env. Risks

Criteria	Status Quo	Sensitiv 1	Sensitivity 2	Sensitivity 3	Sensitivity 4	Sensitiv 5	Sensitivity 6	Sensitivity
	Current Leasing System	Lower Oil Price (\$50)	Higher Oil Price (\$120)	No Technology Change	Delay: 1 Year All Fields, 2 Years Deepwater	No New Fields	Increase New Fields (4.4%/Yr)	Federal Tax Rate 35%
Discounted Environmental/Social Costs	\$ 866	-44.6%	12.3%	-18.6%	-13.3%	-67.4%	104.9%	-17.7%
Number of Tracts Offered	5,598	0.0%	0.0%	0.0%	-4.2%	0.0%	0.0%	0.0%
Number of Tracts Sold	337	-5.2%	2.6%	5.0%	-1.4%	-65.6%	131.1%	0.0%
Total Discounted Production	10,874	-35.8%	30.2%	-5.6%	0.6%	-62.2%	137.7%	-4.6%
Number of Field Discovered	3,278	-6.1%	3.0%	-5.1%	0.8%	-71.5%	226.2%	0.0%

Goal 6. Maximize Social Value

Criteria	Status Quo	Sensitiv 1	Sensitivity 2	Sensitivity 3	Sensitivity 4	Sensitiv 5	Sensitivity 6	Sensitivity 7
	Current Leasing System	Lower Oil Price (\$50)	Higher Oil Price (\$120)	No Technology Change	Delay: 1 Year All Fields, 2 Years Deepwater	No New Fields	Increase New Fields (4.4%/Yr)	Federal Tax Rate 35%
Discounted Leasing Revenues	\$ 425,487	-57.7%	57.9%	-6.7%	1.2%	-71.8%	174.4%	
Discounted Federal Taxes	\$ 41,459	-85.5%	94.4%	-15.8%	3.5%	-90.2%	243.8%	
Discounted Profit	\$ 433,676	-63.9%	65.2%	-10.0%	0.7%	-76.1%	193.0%	
Total Discounted Revenues	\$ 900,622	-61.9%	63.1%	-8.7%	1.1%	-74.7%	186.5%	
Discounted Lost Resources	2,274	171.2%	-144.3%	27.0%	-2.9%	297.2%	-658.2%	
Total Discounted Production	10,874	-35.8%	30.2%	-5.6%	0.6%	-62.2%	137.7%	

BOEM Responsibilities, Staffing and the Pace of Leasing

In my previous public comments concerning this Five Year Program, I expressed concerns that MMS/BOMRE/BOEM lack the staffing to accomplish its various missions. The pace of progress of this Five Year Program development demonstrates the validity of my position. In the prior Five Year Program the Draft Programmatic EIS was published in August. In this cycle it was published in November. There are other signs that BOEM is unable to keep up the responsibilities. The Federal Register Notice for this public comment period was dated November 10th. It indicated that supporting documents would be posted on the BOEM website. Two of those documents were not posted until December 20th. The content of the legacy MMS website has yet to be integrated into the new BOEM website. At a recent public meeting hosted by BOEM. The computer running the projector was using Windows XP. This software is two generations behind. Former Director Bromwich routinely indicated under funding of the program.

BOEM is in a transformative stage. It is moving from an oil and gas centric mission to an alternative energy mission. The alternative energy mission going forward is the priority. The legacy oil and gas mission for BOEM has declined in importance, due to the emergence of shale natural gas. Further the AWL Study indicates the reducing the pace of AWL will obtain more production and revenue with less environmental cost. After a quarter of a century of AWL it is now time to slow down the pace of leasing.

Technical Observations

Presale Evaluation (page 75)

On the top of page 75 is this statement:

The Government cannot expect to identify with any degree of accuracy before a sale which blocks have the lowest value based on the sparse and highly uncertain data available to evaluators in the relatively brief periods between sales.

This statement is incorrect. The government can identify low and high value tracts prior to the sale. In fact, I was doing this when I was working for MMS. True there are thousands of tracts available in GOM sales. These tracts can be triage into a spectrum of likely values. At the high end those tracts which were rejected in the previous sale have a high probability of obtaining a bid in this sale. On the other end of the spectrum are tracts over 30 miles from a currently active lease have almost no probability of a positive value in the next sale. Other attributes such as previous leasing or production on the tract impact the probability of a lease obtaining a positive value. I was using relatively simple data mining technology at the time. Since then data mining algorithms have improved and computers are more powerful.

Data mining can provide a relative ranking of the thousands of tracts being offered in the sale. Historically the majority of tracts which receive bids are determined to be non-viable. Only the best tracts would need to be exposed to a detailed review for a determination of exceeding the Minimum Bid. That information for value determination is available to BOEM prior to the sale.

I am not advocating pre-sale tract evaluation, just that BOEM does have the data to accomplish it. BOEM has an asymmetric data advantage and should use it to lower costs and generate additional revenues.

Hurdle Prices (page 71 & 72)

For the development of hurdle prices the analysis uses the maximum field size. From my discussion with the Resource Evaluation management, this is the upper bound of the largest undiscovered field from the modeling simulation. I suggest that the median or mean value of the largest field from the simulation would be a better value to use for the analysis.

For Chukchi and Beaufort the natural gas hurdle prices are problematic. Those prices imply that the natural gas at Prudhoe Bay are economic, which is not the case.

Price Level Assumptions (page 96)

First the historical correlation between oil and gas is broken. It is possible now to have oil at \$150 and natural gas at \$3 concurrently. Next the lower 48 natural gas is near \$3, well below the low scenario presented in the document. Alaska and GOM need different price assumptions for natural gas, since they are exposed to different markets.

Look-back Studies (page 164)

For the GOM there were over 1300 leases which produced oil in 2010, but just 22 of these leases generated half of the total oil production. Five leases issued since 1997 are in this set. Four of the five were determined to be non-viable at the time of sale.

The look-back studies examination of lease counts is targeted at the wrong question. The question is where does the production emerge from? Recently, that production has emerged from non-viable tracts.

General Public Comments (page 187)

Over a half million comments were submitted to MMS/BOEMRE/BOEM. The agency needs to first better describe and respond to these comments. A short paragraph within a document of over 200 pages gives the impression the agency is not seriously addressing the input from the general public.

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