



THE STATE
of **ALASKA**
GOVERNOR BILL WALKER

Department of Revenue

COMMISSIONER'S OFFICE

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February 16, 2017

The Honorable Anna MacKinnon and the Honorable Lyman Hoffman
Alaska State Senators
Co-chairs, Senate Finance Committee
State Capitol Rooms 516 and 518
Juneau, AK 99801

Dear Co-Chairs MacKinnon and Hoffman:

The purpose of this letter is to provide you with responses to the questions asked of the Department of Revenue during our presentation to the Senate Finance Committee on January 19, 2017. Please see questions in italics and our responses immediately below the questions.

1. *How much of the change in the oil production forecast was due to new oil coming online?*

Please see the attached document "Spring 2016 – Fall 2016 Under Development & Evaluation Forecast Comparison." Please note that due to the methodology change in the fall 2016 forecast, some of the oil volumes that would historically be considered under development are now accounted for in the currently producing category and are not included in this analysis. As a result, the spring 2016 and fall 2016 under development categories are not directly comparable.

2. *Is there a way to get a more realistic forecast of federal revenue that accounts for the gap between authorized revenue and what is actually received?*

Over the past 15 years, the ratio between actual revenue and the authorized amount has averaged about 77%. Applying this ratio to DOR's official forecasts gives \$2,736 million in FY 2017 and \$2,424 million in FY 2018.

Here are the historical numbers for federal revenue in the budget (the authorized number) versus actual federal revenue numbers, in millions of dollars, going back 15 fiscal years:

<u>FY</u>	<u>Budget</u>	<u>Actual</u>	<u>Ratio</u>
2015	3131.4	2512.7	80%
2014	2966.6	2518.7	85%
2013	2825.4	2386.8	84%
2012	3106.5	2460.3	79%
2011	3106.5	2410.9	78%
2010	2916.7	2409.2	83%
2009	2523.4	2088.4	83%
2008	2524.1	1902.5	75%
2007	3048.5	1971.9	65%
2006	2745.0	1971.5	72%
2005	3019.3	1946.3	64%

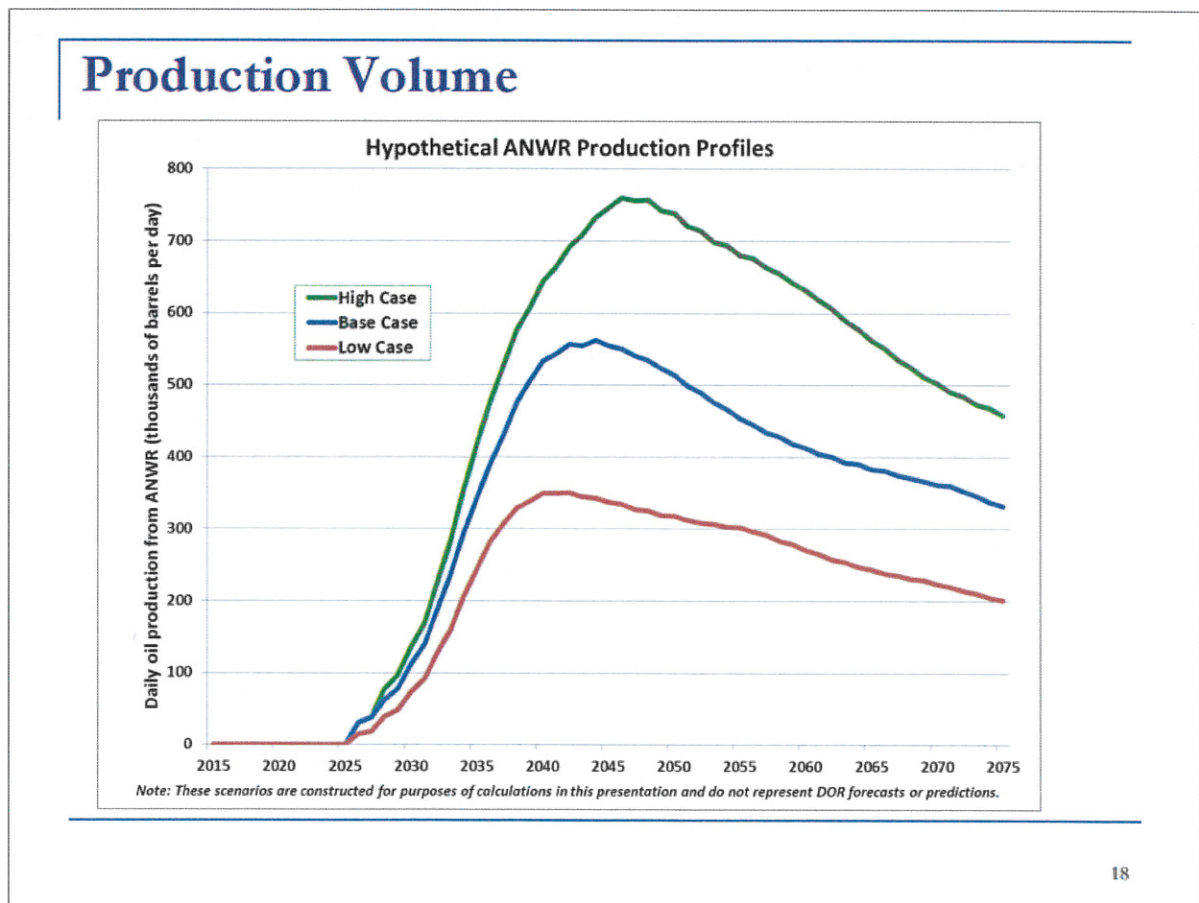
2004	2427.8	1951.7	80%
2003	2321.9	1812.6	78%
2002	2081.5	1572.1	76%
2001	1826.2	1322.6	72%
Sum	40570.8	31238.2	77%

3. *How much would potential production in the 1002 area of the Arctic National Wildlife Refuge (ANWR) add to the production forecast?*

In February 2015, DOR gave a presentation to the House Resources Committee about potential ANWR development. The presentation is attached.

The estimated impact on production is shown on slide 18 and the estimated impact on state revenue is on slide 21. These estimates are an illustrative view of what ANWR development could possibly look like. The numbers should not be taken as authoritative. The analysis required numerous assumptions which are detailed in the slide deck, specifically on slide 29. Based on those assumptions, ANWR may have the potential to add over 500,000 barrels of daily production.

A screenshot of slide 18 is shown below.

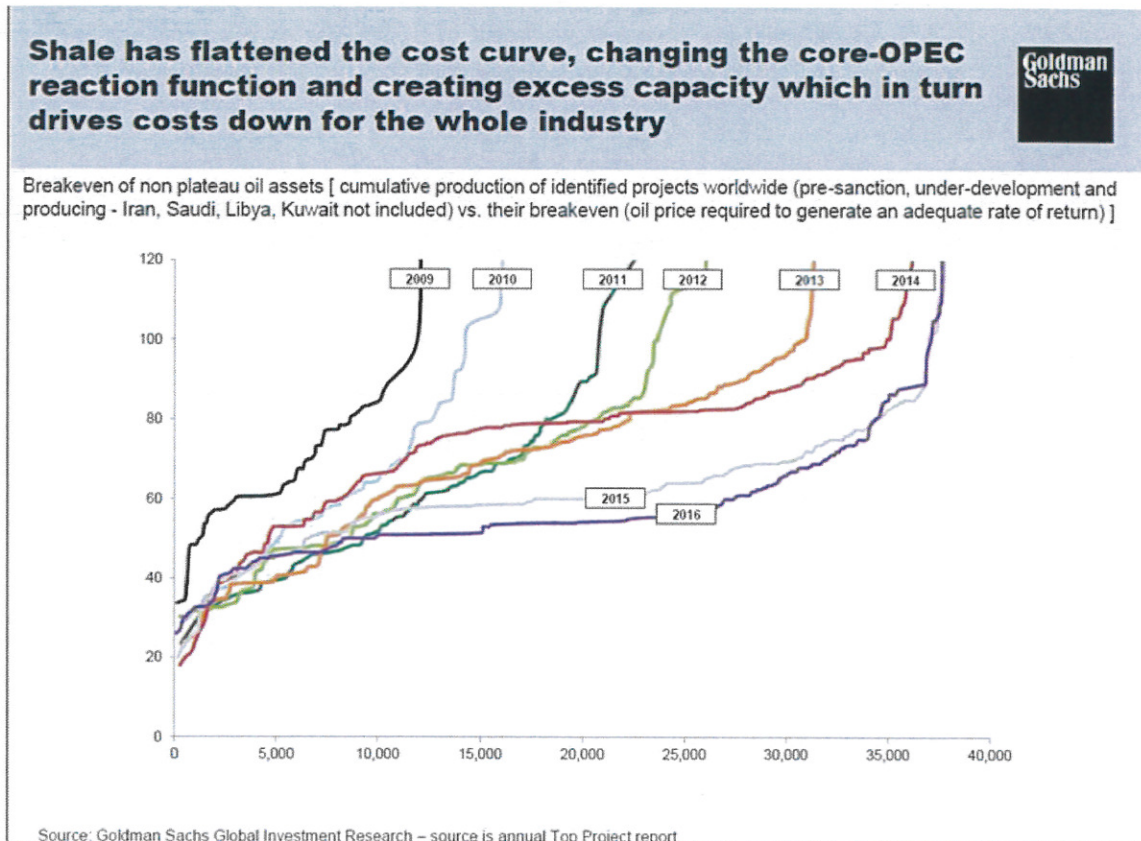


4. *Is there a global cost of supply where we are priced out of the market, or is there are regional market where we compete more efficiently and don't have to compete against the global cost of supply?*

Alaska North Slope (ANS) crude oil is a commodity, which by definition means it is has no pricing power. As a result, ANS crude competes on a global basis with all other crudes based on price. In other words, there is no regional market that allows Alaska to avoid competing against other oil-producing regions.

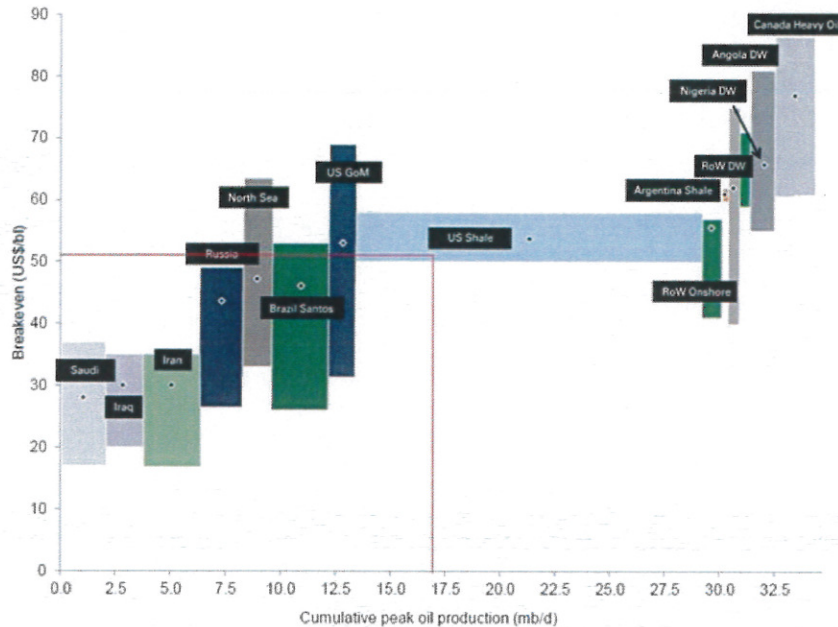
The key variable in ANS competitiveness on a global basis is the amount of crude produced less the cost of production. Costs are likely to become a significant issue for ANS crude in the future, unless more economical reserves are found and developed. Globally the cost of supply has fallen and flattened dramatically as a result of new resources developed over the past decade as well as technological improvements and new hydraulic fracturing techniques.

The following graph was provided by Goldman Sachs during the fall 2016 price forecasting session. It plots number of additional barrels produced per day (in thousands) on the horizontal axis against the break-even price on the vertical axis. The “flattening” of the graph shows that a much larger volume of oil can now be produced at a lower price point.



This second graph, also provided by Goldman Sachs, shows the oil production cost curve broken down by region. This graph shows there is a large amount of U.S. shale production that can come online between \$50 and \$60 per barrel. This is a similar price to the break-even point for much of the “rest of world onshore” production which includes Alaska North Slope oil.

**Cost curve including potential OPEC production to 2025 –
downside risk comes from higher OPEC production**



Source: Goldman Sachs Global Investment Research.

I hope you find this information to be useful. Please do not hesitate to contact me if you have further questions.

Sincerely,

Randall Hoffbeck
Commissioner

Attachments:

- Spring 2016 – Fall 2016 Under Development & Evaluation Forecast Comparison
- ANWR presentation