

U.S. Senate Committee on Energy and Natural Resources

*Hearing on the*

**Bureau of Ocean Energy Management's 2017-2022 OCS Oil and Gas Leasing Program**

May 19, 2016

Testimony of Dr. Joseph R. Mason

The Committee has convened today to discuss the Bureau of Ocean Energy Management's 2017-2022 OCS Oil and Gas Leasing Program. Overall, that program plans to cut leasing in the Arctic, the Atlantic, and the Gulf of Mexico. According to the BOEM, "The Proposed Program schedules thirteen potential lease sales in four program areas in all or parts of six OCS Planning areas: ten sales in the combined Gulf of Mexico (GOM) Program Area, and one sale each in the Chukchi Sea, Beaufort Sea, and Cook Inlet Program Areas offshore Alaska. No lease sales are proposed for the Pacific or Atlantic OCS."<sup>1</sup> This is down from twelve lease sales in the Gulf of Mexico and three in the Arctic (two of which were cancelled) in the prior five-year plan and sixteen planned sales in the plan before that.

Generally, the industry views the current plan as somewhat of a cutback. I am of the opinion that the current environment is one in which the BOEM has the opportunity to lease more, not less, in a favorable market environment and create economic output and with it jobs, income, and state and local tax revenues that can assist the economic development of communities in the Gulf of Mexico region.

**The typical five- to ten-year lead time for production means that we are planning for the future, not the present**

In order to understand my reasoning, it is important to recognize that most development project take five to ten years from discovery to production. The EIA recently outlined discovery-to-production times for a variety of deep-water Gulf of Mexico projects that began production in 2015 or are expected to begin production in 2016 and 2017.

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<sup>1</sup> See 2017-2022 OCS Oil and Gas Leasing Program at <http://www.boem.gov/Five-Year-Program-2017-2022/>

The longest lead times were for the Perdido and Stones projects – both developed by Shell – which have taken about eleven years apiece for drilling and production in roughly 10,000 feet of water. Project development time is positively related to depth, so that shallower projects come on line faster. Overall, the average development time for those projects cited by EIA is five-and-a-half years from discovery to productions.<sup>2</sup>

Thus, the plan being discussed today will affect production starting in roughly 2022 and lasting twenty-five to thirty years beyond. While some might desire the shortfalls in future years that may help raise prices, I would argue that the inflexibility that would result from engineering policy through long-tailed leasing irreversibly creates risks that jeopardize U.S. economic growth; if Congress wants higher energy prices they can just tax consumption and retain the flexibility to meet the energy demands of the 2020s and 2030s.

### **Low prices are not a reason to forgo leasing**

It is important to recognize that low prices are not the problem here. Because the first barrel of oil from these projects will not be sold until 2022-2027, today's prices are much less relevant. In fact, what is far more relevant is today's interest rates.

Today's rates are important because – with low inflation expectations – firms can still borrow cheaply to develop the new leases. Moreover, today's low rates mean that the leases are more valuable to firms now than they will be when inflation (or new market risk) rears its ugly head.

Consider that in 2009, the Moody's Baa spread was 5.72%, while today it is 2.90%. As a result, the value of an even stream of production across the period five years from now for another fifteen years is 2.84% greater than in 2009, when oil prices were much higher.

Moody's Seasoned Baa Corporate Bond Yield was 8.42% in March 2009, while today it is 4.79%. On that basis, the value of an even stream of production across the period five years from now for another fifteen years is 6.27% greater than in 2009.

The BofA Merrill Lynch Emerging Markets Corporate Plus Index Effective Yield started 2009 at 14.45%, while today it is 4.86%. Solely because of lower interest rates, the value of an even stream of production across the period five years from now for another fifteen years is 50.50% greater than in 2009.

Thus the Federal Government is better off selling leases today rather than waiting for inflation expectations to rise, at which point the net present value lease bids will go down. Counter to one's intuition, interest rates matter more to lease values than current prices.

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<sup>2</sup> EIA, "Oil production in federal Gulf of Mexico projected to reach record high in 2017," Feb 18, 2016 at <https://www.eia.gov/todayinenergy/detail.cfm?id=25012>.

## Economic Impact still large

As I showed in some of my prior studies, the development phase is economically rich with opportunities for jobs, income, GDP growth and state and local tax revenues from a healthy economy.

It is well-known that development costs are considerable. For instance, Shell sunk more than \$7 billion into development for drilling in Alaska before abandoning the prospect. It is estimated that Shell will spend another \$1 billion before they wrap up obligations relating to the Chukchi Sea leases. While Shell may be allowed to continue activity at a later date, as of now the investment has resulted in zero production.<sup>3</sup>

Shell's experience is by no means unique. Since the early 2000s, large-scale projects have required considerable up-front investment. For instance, Chevron's 2002 "Tahiti" project in the Gulf of Mexico—which involves fields lying 100 miles off the U.S. coast at a depth of 4,000 feet—found "an estimated 400 million to 500 million barrels of recoverable resources."<sup>4</sup> Chevron estimated that it would take seven years to build the necessary infrastructure required to begin production at Tahiti. The field was estimated to require an investment of about "\$4.7 billion [in then-current dollars]—before realizing \$1 of return on ... investment."<sup>5</sup>

Using my method from my prior study, the lease plan under consideration today will contribute roughly some \$50 million to \$115 million in GDP to the Gulf states, create 200 to 500 jobs for the duration of seven years, contributing wages of roughly \$10 million to \$30 million to the region, and result in state and local tax revenues of \$3.5 million to \$10 million.

## Conclusion

In light of discussions of cutting Revenue Sharing, as well as other state assessments in the Gulf region, those numbers are important.

But potentially even more important is the effect that the BOEM's decisions are having on CO<sub>2</sub> and global warming. A recent research project out of Stanford University and the University of Calgary, funded by the Carnegie Endowment, is showing convincingly that every barrel of oil's carbon footprint is not equal.<sup>6</sup> In fact, oil from the Gulf of Mexico has among the lowest carbon footprint of that produced from 30 different regions around the world.

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<sup>3</sup> Dlouhy, Jennifer A. "Shell leaves door open for future exploration in Alaska's Arctic," *Houston Chronicle*, November 2, 2015 at <http://www.adn.com/article/20151102/shell-leaves-door-open-future-exploration-alaskas-arctic> (Last accessed Nov 30, 2015)

<sup>4</sup> Statement of Peter J. Robertson, Vice Chairman, Chevron Corp., Prepared for the House Select Committee on Energy Independence and Global Warming, Apr. 1, 2008 [hereinafter *Chevron Testimony*], at 6 ("In 2002, we used leading-edge technology to drill in 4,000 feet of water and found an estimated 400 million to 500 million barrels of recoverable resources. It will take seven years to build the infrastructure required to produce the oil and gas more than a 100 miles offshore.")

<sup>5</sup> *Id.*

<sup>6</sup> [http://carnegieendowment.org/files/know\\_your\\_oil.pdf](http://carnegieendowment.org/files/know_your_oil.pdf)

Thus, restricting output in the Gulf will only increase output in many of those dirtier oil fields elsewhere around the globe. We need a smart energy policy that can tail off the dirtiest production, not encourage it.

**Total GHG Emissions for 30 Phase 1 OCI Test Oils**

