



THE THOMAS JEFFERSON
INSTITUTE FOR PUBLIC POLICY

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Oil and Gas Potential Off Virginia's Coast



By:

Michael W. Thompson, Chairman/President

Thomas Jefferson Institute for Public Policy

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Thomas Jefferson Institute for Public Policy

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Oil and Gas Potential Off Virginia's Coast

By: Michael W. Thompson

A great national debate is being waged on whether to develop America's vast energy resources. Inexpensive energy supplies have been a major factor in America's economic success. That, along with our historic market-oriented philosophy of commerce, has made us the richest and most powerful country in the world. However, over recent decades our nation has made it public policy to limit our energy development even as we fight armed conflicts in the oil-rich Middle East ... as we worry about the future of our allies in Europe who have grown reliant on Russian energy supplies ... as we struggle when a nation such as oil rich Venezuela falls into the international anti-American alliance ... as we try to figure out how to keep our economic engine purring better than that of other countries ... and as we try to figure out how to pull ourselves out of one of the longest economic lethargies our nation has faced.

Many see this energy-restrictive public policy of not allowing us to develop the oil and gas off our shores as short sighted and detrimental to our future as a strong, free and worldwide competitive nation. And let's remember that we are talking about drilling 50 miles or more off our coastline. You cannot come anywhere near seeing that far off the coast if you stand at the shoreline or on the bridge of one of our modern aircraft carriers.

This is why the Thomas Jefferson Institute suggested to the Interstate Policy Alliance that it conduct a careful, well-documented and in-depth study of the potential benefit for developing the oil and gas reserves off our Atlantic coast from Delaware to Georgia. This area of the Atlantic holds great promise for large quantities of natural gas and oil. And Virginia not only can benefit from the gas and oil that can be found off our coast, but our natural deep water port gives us the potential to bring much of this raw product to our shores for refining and transporting throughout our country and overseas. Virginia can truly become the "Energy Capital of the East Coast" where thousands of new jobs can be created and our nation's economic future can be made more secure.

This regional study can be found [here](#) on the Jefferson Institute's website. It highlights the potential in the region from Delaware to Georgia including the here in Virginia. It is researched and written by Dr. Timothy Considine, the Distinguished Professor of Energy Economics at the University of Wyoming. The numbers in this study are inflation adjusted over the years. When the author refers to the "discount rate" this is economist-speak for inflation rate.

Here in Virginia, with the likelihood that the medium to high estimates for gas and oil production can be achieved, in 20 years we can see between 16,500 and 32,100 jobs created. This will also produce between \$270 million and \$526 million a year in royalty payments and between \$61 million and \$119 million in new state and local taxes. These monies can go a long way in improving the Hampton Roads transportation network, its schools and to help it prepare for the growing threat of rising ocean waters.

This study shows that Virginia can gain the third largest economic impact from the oil and gas off the Atlantic coast from Delaware to Georgia, just behind South Carolina. With our

strategically placed deep water port, we could also become a major refining center for this newly acquired natural gas and oil.

What his study shows is that the economic benefits awaiting Virginia are most significant. And if the federal government allows that gas and oil to be developed, it can benefit our state and our country.

This decision will be made in the next couple of years for the next sale of leases off our shores in the Atlantic Ocean.

Virginia could have started this process many years ago had previous administrations in Washington, and the current one, not denied us the capability of moving ahead. When you look at the charts and tables that are part of this regional study ([here](#)), and they are reproduced below, you can see how far along we could have been, had the “go ahead and drill” decision been made in President Bush’s first year in office, 2001. We should begin at the earliest possible time to take advantage of these gas and oil reserves and to give our children and grandchildren a better economic future.

This study ([here](#)) shows the potential gas and oil reserves off our coast, the economic impact that can be gained and the possible environmental impacts as well. These impacts are given dollar values in order to make a purely dollar-focused analysis of gas and oil exploration. This study shows that exploration of oil and gas off our coast makes sense.

I have pulled the tables out of the overall study and have reprinted them below.

You can see the impact if we move forward with exploring and developing our natural gas and oil off our coast. Here are the Virginia results from this regional study that the reader can find [here](#):

- 1) Virginia will have the third highest level of spending on oil and gas development in the study region, close behind South Carolina.
- 2) As Table 17 below from the regional study indicates, oil and gas investment and operating outlays in Virginia during 2025, ten short years from now, can reach between \$82 and \$455 million from the low to high production scenarios. And by 2035, we are looking at investments and operating outlays of between \$404 million and as much as \$ 2.25 billion.
- 3) Cumulative real investment spending and operating expenditures to support oil and gas operations offshore Virginia by 2035 are \$3.3, \$9.4, and \$18.3 billion across the low, medium, and high production scenarios, which can be obtained by summing the numbers appearing in the last three columns of Table 17.
- 4) Virginia’s promising oil and gas resource base encourage these investments. As a result, crude oil production approaches between 11,300 barrels per day to 63,000 barrels per day by 2035 (see Table 18). Natural gas production reaches between 88 million cubic feet to 491 million cubic feet per day in 2035 (see Table 18). As a larger more populous state, Virginia consumes approximately 1.1 billion cubic feet of natural

gas per day, so potential offshore production could comprise less than a third of statewide consumption, which nevertheless could provide a valuable option against the vagaries of regional natural gas production and transportation.

- 5) The economic impacts associated with these spending levels are presented in Table 19. The economic impacts build over time as spending and production increases. By 2025, under the medium production scenario, gross regional product or value added in Virginia rises by \$270 million and over 3,100 jobs, by \$1.1 billion in 2030 and more than 12,000 jobs, and \$1.4 billion and more than 16,000 jobs in 2035. The high production scenario generates incremental value added of \$526 million and additional 6,000 jobs in 2025, \$2.1 billion and over 23,000 jobs in 2030, and \$2.8 billion and more than 32,000 jobs in 2035.
- 6) The estimated impacts on the Virginia state budget are presented in Table 20. In the last year of the forecast horizon, Virginia collects between \$94 and \$526 million in oil and gas lease and royalty revenues and from \$21 to \$119 million in state and local taxes. These two sources combined could augment state and local revenues from \$115 to \$645 million dollars depending upon how much oil and gas are eventually discovered. If Virginia oil and gas leases were sold 18 years ago, Virginia's current state budget could be improved by these amounts thus, illustrating the impact of delays in offshore lease sales.
- 7) The associated environmental impacts appear in Table 21. Under the medium production and valuation scenario, air emission environmental impacts are \$224.5 million while expected oil spill costs are \$19.1 million in 2035. Hence, total environmental impact costs are \$243.6, considerably below the \$1.4 and \$2.8 billion of gross state product generated in that year under the medium and high production scenarios respectively.
- 8) Virginia has the deepest port on the East coast and the largest dry docks in the U.S. at Newport News Shipbuilding. The state is also home to a major offshore industry supplier Oceaneering in Chesapeake, Bauer Compressors in Norfolk, PaR Marine, and Strongwell in Bristol that produces materials for floating production units. These companies and their supporting infrastructure would be valuable assets for supporting the development of oil and gas drilling off the Virginia coast. Based upon the employment estimates by industry developed by Quest Offshore (2013), the higher production scenario would support over 824 jobs in the Ports of Chesapeake and Norfolk. Given existing infrastructure, offshore oil and gas drilling could attract additional investment in refineries and other energy facilities making Virginia's port an energy center for the East Coast, similar to the role Houston plays in Gulf of Mexico oil and gas development.

As far as this author is concerned, let's make the policy decision to "see what's out there" off the Atlantic Coast. Let's make the decision that if the quantities are there as are indicated by

this current analyses, then let's develop it and get it into our economic system. To do otherwise seems to be a disservice to our current and future generations.

The Tables referred to above, are listed beginning below. These will assist the reader to see the projected growth over the years of the various numbers mentioned in this Foreword and in the regional study ([here](#)) from which these numbers were pulled. The table numbers correspond to those in the Virginia section of this regional study.

This study was funded by the Interstate Policy Alliance, a foundation-supported effort to commission and promote state-based research for free market organizations. This report researched and written by Dr. Considine uses publicly available figures including the recent numbers from the Bureau of Ocean Energy Management – BOEM.

This report is provided to assist our policy makers and those who influence our policy makers to make a more informed decision. The policy comments are mine and do not necessarily reflect those of our individual Board Members. This report will hopefully provide our lawmakers and others with additional information in this policy discussion about developing the gas and oil that is surely off our coast. Nothing in this report is meant to influence the outcome of any specific legislation.

Michael W. Thompson, Chairman and President
Thomas Jefferson Institute for Public Policy
September 2014

Table 17: Spending Scenarios for Oil and Gas Development in Virginia

Million 2012 Dollars			
Year	Low	Medium	High
2017	2	5	9
2018	5	14	27
2019	6	16	32
2020	8	24	46
2021	11	32	63
2022	16	47	91
2023	40	113	221
2024	58	166	324

2025	82	234	455
2026	145	416	810
2027	187	534	1,041
2028	237	677	1,319
2029	290	828	1,613
2030	322	919	1,790
2031	359	1,026	1,999
2032	357	1,021	1,990
2033	375	1,071	2,086
2034	378	1,078	2,101
2035	404	1,155	2,250

Table 18: Oil and Gas Production Scenarios in Virginia

Year	Crude Oil – thousand bbl / day			Natural Gas – million cf / day		
	Low	Medium	High	Low	Medium	High
2025	0.0	0.0	0.0	0.0	0.0	0.0
2026	0.0	0.1	0.2	0.4	1.1	2.2
2027	0.5	1.3	2.6	6.2	17.7	34.4
2028	1.1	3.1	6.0	15.1	43.1	84.1
2029	2.1	5.9	11.5	26.9	76.7	149.5
2030	2.9	8.4	16.3	36.7	104.7	204.1
2031	4.4	12.6	24.5	53.9	153.8	299.7
2032	6.0	17.2	33.6	66.4	189.8	369.8
2033	8.3	23.7	46.2	76.5	218.4	425.5
2034	9.7	27.7	53.9	81.3	232.2	452.4
2035	11.3	32.3	62.9	88.2	251.9	490.9

Table 19: Economic Impacts in Virginia

Year	GRP - Million 2012 Dollars			Full Time Equivalent Jobs		
	Low	Medium	High	Low	Medium	High
2017	2	6	12	21	59	116
2018	6	18	36	67	191	373
2019	8	22	42	78	222	432
2020	12	36	69	131	373	727
2021	16	47	91	202	576	1,122
2022	22	64	125	276	788	1,536
2023	49	140	272	547	1,561	3,042
2024	65	185	360	746	2,131	4,151
2025	94	270	526	1,087	3,105	6,051
2026	163	466	909	1,921	5,486	10,689
2027	211	602	1,173	2,465	7,041	13,719
2028	271	773	1,506	3,191	9,115	17,761
2029	334	953	1,857	3,946	11,272	21,963
2030	370	1,057	2,059	4,248	12,134	23,643
2031	418	1,194	2,326	4,862	13,889	27,062
2032	425	1,214	2,365	4,991	14,256	27,776
2033	460	1,313	2,558	5,360	15,309	29,829
2034	464	1,325	2,581	5,265	15,038	29,301
2035	503	1,436	2,798	5,768	16,477	32,104

Table 20: Fiscal Impacts in Virginia

Million 2012 Dollars						
Year	Oil & Gas Leases & Royalties			State & Local Taxes		
	Low	Medium	High	Low	Medium	High
2017	0.0	0.0	0.0	0.1	0.3	0.5
2018	0.7	2.0	3.9	0.3	0.8	1.5
2019	0.7	2.0	3.9	0.3	0.9	1.8
2020	3.5	9.9	19.3	0.5	1.5	2.9
2021	3.5	9.9	19.3	0.7	2.0	3.9
2022	3.7	10.6	20.6	1.0	2.7	5.3
2023	3.7	10.6	20.6	2.1	5.9	11.6
2024	3.7	10.6	20.6	2.7	7.8	15.3
2025	3.7	10.6	20.6	4.0	11.4	22.3
2026	4.0	11.4	22.3	6.9	19.8	38.5
2027	9.1	26.0	50.6	8.9	25.5	49.8
2028	14.7	42.1	82.0	11.5	32.8	63.9
2029	22.3	63.6	124.0	14.2	40.4	78.8
2030	30.5	87.0	169.6	15.7	44.8	87.3
2031	41.3	118.0	229.9	17.7	50.6	98.7
2032	52.8	150.8	293.9	18.0	51.5	100.3
2033	68.1	194.5	379.0	19.5	55.7	108.5
2034	78.3	223.6	435.7	19.7	56.2	109.5
2035	94.5	270.0	526.1	21.3	60.9	118.7

Table 21: Environmental Impacts in Virginia

Million 2012 Dollars						
Year	Air Emissions			Expected Value of Oil Spills		
	Low	Medium	High	Low	Medium	High
2025	0.0	0.0	0.0	0.0	0.0	0.0
2026	0.1	0.5	2.9	0.0	0.0	0.2
2027	0.8	7.9	46.7	0.2	0.8	3.2
2028	2.0	19.0	112.3	0.4	1.8	7.6
2029	3.9	36.9	218.8	0.8	3.5	14.5
2030	5.7	53.1	316.2	1.1	4.9	20.6
2031	8.9	81.4	486.3	1.6	7.4	31.0
2032	12.7	113.5	679.6	2.2	10.2	42.4
2033	18.0	159.0	954.0	3.0	14.0	58.3
2034	21.8	189.2	1,137.6	3.5	16.3	68.1
2035	26.2	224.5	1,352.9	4.1	19.1	79.4

Michael Thompson

Michael Thompson is currently the Chairman and President of the Thomas Jefferson Institute for Public Policy, a non-partisan Virginia focused foundation dealing with the issues of government reform, improving education, economic development and energy/environmental stewardship. This foundation is the state's premier independent public policy foundation and has gained broad based respect from political and business leaders throughout Virginia.

Prior to founding the Thomas Jefferson Institute, Mr. Thompson was for 24 years the owner and president of the Thompson Creative Marketing Group, a nationally recognized marketing and public affairs company in Springfield, Virginia. He was also the president of the Mather Furniture Company, a family owned business in Georgia. He is the past Chairman of the Virginia Leadership Council, the state's Board of Directors for the National Federation of Independent Business (NFIB), the nation's largest small business organization with over 6,000 members in our state, and remains on its Board of Directors. He served on the Attorney General's Regulation Reform Commission in 2008-2009 as a member of the Infrastructure Task Force and was the Governor's Advisor to the Government Reform and Restructuring Committee from 2010 to 2014.

Mr. Thompson has been an active leader in the Virginia Republican Party and served in many leadership capacities at the state and local level. He was named by Campaigns and Elections magazine as one of the top 50 most influential non-elected Republicans in the state. He is active in his community and has served three terms as President of the Springfield District Council, an organization representing over 200 homeowner associations. He has served many years on the Executive Committee of the Fairfax Federation of Civic Associations (the umbrella organization for all homeowner associations in Fairfax County). He helped found and remains on the Board of Directors of the Occoquan Watershed Coalition in Fairfax County. He was the Governor's appointee to the Small Business Assistance Compliance Advisory Board for the Department of Environmental Quality, served on the Board of Directors for several years of the Washington DC area chapter of the National Kidney Foundation, and has served on several Fairfax County commissions and task forces. He also serves as Vice Chairman of the internationally renowned Fund for American Studies working with high school teachers and college student leaders around the world.

Thomas Jefferson Institute for Public Policy

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“... a wise and frugal government, which shall restrain men from injuring one another, shall leave them otherwise free to regulate their own pursuits of industry and improvement, and shall not take from the mouth of labor the bread it has earned. This is the sum of good government, and this is necessary to close the circle of our felicities.”

Thomas Jefferson, 1801

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