Testimony of
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Before the
Pennsylvania House State Government Committee
June 11, 2018

Good morning, Chairman Metcalfe, Chairman Bradford and members of the House State Government Committee. Thank you for the opportunity to testify today regarding the significant negative economic ramifications of the moratorium on responsible shale gas development imposed by the Delaware River Basin Commission (DRBC). My name is Dave Spigelmyer, and I serve as President of the Marcellus Shale Coalition (MSC). The MSC is a state-wide trade association representing nearly 200 energy producing, midstream, transmission and supply chain members who are fully committed to working with local, county, state and federal government officials to facilitate the development of natural gas resources in the Marcellus, Utica and related geologic formations.

Introduction

Responsible development of oil and natural gas from unconventional formations[1] presents an unprecedented opportunity to provide sustainable and broad-based economic benefits to our region and the nation. Pennsylvania has become the second largest producer of natural gas in the United States, with over 8,000 producing unconventional wells amounting to 5.36 trillion cubic feet in 2017[2]. Pennsylvania is responsible for almost 20% of the country's total natural gas production and at least 33 of Pennsylvania's 67 counties have at least one producing

[1] Pennsylvania law defines an "unconventional formation" as "*A geologic shale formation existing below the base of the Elk Sandstone or its geologic equivalent stratigraphic interval where natural gas generally cannot be produced at economic flow rates or in economic volumes except by vertical or horizontal well bores stimulated by hydraulic fracture treatments or by using multilateral well bores or other techniques to expose more of the formation to the well bore.*" 58 Pa.C.S. §3203

[2] PA Department of Environmental Protection – unconventional natural gas production: https://www.paoilandgasreporting.state.pa.us/publicreports/Modules/Welcome/Welcome.aspx

unconventional gas well. Citizens of the Commonwealth have realized significant economic benefits from this development, including:

- Over 100,000 Pennsylvanians directly and indirectly working in industry-related jobs, supporting hundreds of thousands of their family members;
- Significant consumer savings from lower natural gas supply and wholesale electricity costs, exceeding on average $1,500 annually per household, and exponentially more for businesses and manufacturers;
- Nearly $1.5 Billion in tax revenue paid by unconventional natural gas producers through Pennsylvania's unique Impact Fee benefiting every county in the Commonwealth;
- Over $400 Million of Impact Fee dollars invested in statewide environmental initiatives;
- Over $3 Billion in other business, corporate and income taxes generated by the natural gas industry;
- Over $1 Billion in additional money paid directly to the Commonwealth for the leasing and development of natural gas resources underlying publicly-owned lands; and
- Over $1 Billion in road infrastructure improvements funded by the industry.
- Approximately $10 Billion in royalty and bonus payments to Pennsylvania leaseholders.

Equally important to these economic benefits are the environmental benefits attributable to the increased production and use of natural gas. Pennsylvania has helped lead the United States in the reduction of climate change emissions, thanks to increased use of natural gas in the power generation and transportation sectors. Air quality has improved substantially, and by historic proportions, due to this increased utilization of natural gas. For example, according to the Pennsylvania Department of Environmental Protection (PA DEP), just between 2014 and 2015, sulfur dioxide emissions declined by 25%, particulate matter emissions declined by 23%, and nitrogen oxide emissions declined by 19%[3]. Additionally, according to U.S. Environmental Protection Agency, carbon emissions are near twenty-five year lows. These reductions are contributing to significant declines in respiratory ailments, while reducing historic environmental challenges, such as acid rain, that have plagued the Commonwealth and the Mid-Atlantic region. The ability to develop this resource further and deliver it to additional domestic markets will translate to increased environmental and economic benefits for the entire nation and the world.

[3] PA Department of Environmental Protection – Overview of the Stationary Source Emission Inventory from 2012-2015: http://files.dep.state.pa.us/PublicParticipation/Citizens%20Advisory%20Council/CACPortalFiles/Meetings/2018_01/Stationary%20Emission%20Inventory%20for%20CAC%20__%20COMMS_Policy.pdf

These tremendous opportunities come with a collective responsibility to protect the environment in a manner firmly grounded in the law and sound science. It is for this reason that the MSC's members have already spent hundreds of millions of dollars on industry-specific environmental and responsible practices to ensure that their operations meet or exceed stringent regulations already imposed by state and federal agencies. With an environmental compliance rate of nearly 97%[4], operating under some of the most stringent and rigorous environmental standards in the nation, Pennsylvania's unconventional shale gas industry has a demonstrated track record of operating in a manner that protects our shared environment.

Resource Potential

While we cannot predict exactly what the resource potential of unconventional shale gas is within the Delaware River Basin – but we have every reason to believe it is significant.

One of the earliest state publications examining the natural gas potential of the Marcellus Shale was published in the spring of 2008 by the Bureau of Topographic and Geologic Survey of the Department of Conservation and Natural Resources (DCNR)[5]. This report examined historical data on shale gas exploratory wells in Pennsylvania – some dating back more than 70 years – along with extensive data and studies conducted throughout Appalachia as part of the Eastern Gas Shales Project, an undertaking of the U.S. Department of Energy conducted after the 1973 energy crisis. The DCNR report observed that the key to prolific natural gas production is the higher-than-normal gamma ray responses found in gamma-ray logs, which is indicative of organic-rich shales. Contrary to the conventional belief that the thickness of the shale is the greatest indicator of gas potential, the report concluded that producers "*should be looking for where it is most rich in organic matter*."

Importantly, the report noted that while the Marcellus Shale underlies much of Pennsylvania, "*the organic-rich portion reaches its maximum development in the northeastern part of the*

[4] Marcellus Shale Coalition – evaluation of PA Department of Environmental Protection inspection, violation and enforcement data (2017)
[5] *Pennsylvania Geology* – PA Department of Conservation and Natural Resources – Spring 2008 – http://www.docs.dcnr.pa.gov/cs/groups/public/documents/document/dcnr_006811.pdf

state." Indeed, an accompanying map illustrating the thickness sequence of organic-rich shale shows some of the greatest thickness of the Marcellus Shale throughout all of Wayne County and the northwestern portion of Pike County.

DCNR's 2008 report didn't get everything correct. The report noted that "*the Marcellus will probably not be quite as productive as the hype suggests*" and that "*peak petroleum production for the United States is past.*" A decade later, we know those assertions to be wholly underestimated, as advents in new technology and greater understanding of the resources beneath our feet has unleashed an historic era of natural gas and oil production in the United States.

Economic Potential

In 2013, Hess and Newfield – two leading natural gas producers – announced that, after four years of stagnation by the DRBC, they were leaving Pennsylvania. More than $150 Million had been invested in northeast Pennsylvania to secure leases, plan for development, and drill several exploratory wells. Yet, with no end to the de facto moratorium in sight, and plenty of options elsewhere, the companies vacated these leases, and the economic opportunities lost for those mineral owners.

Economically, this inability to develop the resource was devastating. Initial bonus lease payments totaled over $100 Million, but another nearly $187.5 Million was never paid due to the invocation of force majeure[6]. Over 1,500 leases – affecting thousands of landowners – were terminated. The total economic impact to the region – the loss of upwards of $8 Million into the local economy per well, and hundreds of millions of dollars in lost royalty revenue – is impossible to calculate.

[6] Newfield, Hess Terminate Leases in Northeast Pennsylvania – July 17, 2013 – Natural Gas Intel
http://www.naturalgasintel.com/articles/5058-newfield-hess-terminate-leases-in-northeast-pennsylvania

SRBC Oversight

We need to look no further than the neighboring Susquehanna River Basin Commission (SRBC) to realize the absurdity of the DRBC's actions. For more than a decade now, the SRBC has safely managed water resources, while allowing for responsible development of property rights. Indeed, the unconventional natural gas industry has worked closely with the SRBC to ensure that water withdrawals and water usage within the basin are done in a safe and responsible manner. SRBC has adopted a regulatory framework that is workable, flexible, protects our water resources and respects the needs of other users. Furthermore, the industry has developed an excellent working relationship with the SRBC and has found their staff to be professional and accessible in executing their charge of water management and environmental protection. To date, the DRBC has squandered this incredible opportunity – and neglected their obligation – to build a similar relationship with industry in order to mirror similar responsible development within its basin.

This decade of experience – bolstered by repeated scientific studies undertaken by SRBC – has demonstrated that unconventional natural gas development has occurred within the Susquehanna River Basin with no discernable impact on our water resources. This is a testament to both industry and the SRBC, and a model that should have been emulated within the DRBC.

Conclusion

Make no mistake, the landowners and property owners of Wayne and Pike counties have suffered under this moratorium, not to mention the consumers in and around the basin. The economic loss to the Delaware basin is evidenced in the capital being invested in other shale opportunities in Pennsylvania, the Tri-State region, and other basins across the country. At the end of the day, capital investment will be made – somewhere. In this case, like we have seen in New York State, it is the local residents that are deprived of these benefits.

We have already lost 10 years of capital investment, enhanced energy security, and proving the resource capability of the resources in the basin. This means we have also lost 10 years of job

opportunities, lease bonus payments and royalty income for landowners – which translates to deferred retirements, deferred college, inability to pass down the family farm, and many other detriments that need not to have happened if the DRBC had simply done its job instead of playing politics with people's livelihoods.

I very much appreciate this Committee shining a light on this important matter and welcome the opportunity to answer any questions you may have.