House Environmental Matters Committee  
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Madame Chair, and members of the committee, good afternoon. My name is John Quigley. I am from Camp Hill, Pennsylvania, and for the last 6 years worked in a variety of capacities at the Pennsylvania Department of Conservation and Natural Resources, serving for the last 2 years, until last month, as Secretary of that department and a member of the cabinet of former Governor Edward Rendell.

Thank you for the opportunity to appear before you today and offer my thoughts on the essential elements of public policy as Maryland confronts the challenges and opportunities of Marcellus gas development.

I would like to begin by touching on the opportunities. The natural gas to be found in the Marcellus (and other deeper shales) presents a vast source of domestically-produced energy that can create landowner wealth and new jobs (though I will caution you to be skeptical of industry-funded, hyperbolic estimates of job creation potential).

Natural gas can replace gasoline and diesel fuel in the vehicles we drive, and replace coal in our power plants. As the cleanest burning fossil fuel, an expansion of the use of natural gas and substitution of it for more polluting fossil fuels can help clean our air, reduce global warming emissions, reduce soot and mercury pollution, and improve public health. All the while enhancing national energy security.

These benefits are significant, and need to be seized.

But they need to be seized in a way that recognizes the challenges, the threats, and the balance that is required between natural resource extraction and natural resource protection.
They need to be siezed while enacting the right regulations, and the right taxation.

Let me first discuss my direct experience in dealing with Marcellus development on Pennsylvania’s state forest. About 1.5 million acres of that forest overlay the Marcellus fairway, and in the last 3 years, about 130,000 acres has been leased for gas drilling, bringing the total state forest acreage available for drilling to about 700,000 – a third of Pennsylvania’s state forest land. Over the next 15 to 20 years, as many as 12,000 wells could be drilled on those lands. An analysis that I directed last year concluded that no additional state forest land can be leased on a wholesale basis without compromising the ecological integrity of the forest, and as a result, Governor Rendell signed an executive order that prohibits additional leasing.

An excellent overview of the variety of issues that Pennsylvania has encountered with natural gas development and the work that DCNR did in response can be found on DCNR’s website: http://www.dcnr.state.pa.us/forestry/naturalgasexploration/index.htm.

As you may know, Pennsylvania’s history is punctuated by waves of natural resource extraction, from the timbering over of much of the state to fuel the early days of the industrial revolution, to Drake’s first oil well, to the rise of coal. In each case, Pennsylvania got it wrong. We privatized profits and socialized costs. The quarter million acres of abandoned mine lands and 5,000 miles of polluted streams that scar the state attest to our mistakes.

The wave of natural gas development sweeping over Pennsylvania will have profound economic and environmental impacts on the Commonwealth. Indeed, the cumulative impacts of the Marcellus play will dwarf all of Pennsylvania’s previous waves of resource extraction combined. Pennsylvania cannot afford to repeat our historic mistakes. Maryland must avoid them.

Extraction of natural gas involves land clearing and well pad development, well drilling, and the consumption, treatment, and storage of water and wastewater, and the construction of roads, pipelines and other infrastructure. The environmental issues attached to this industrial activity are complex and daunting. Forest and habitat fragmentation, the introduction of invasive species, soil compaction and erosion, noise, localized air pollution, recreational/aesthetic impacts, and threats to groundwater must be carefully managed. And regulated.
DCNR manages these impacts on the public lands through several processes that go well beyond statutory or regulatory requirements, including:

- A comprehensive environmental review of ecological impacts before land is leased, or when wells are permitted on land where the Commonwealth does not own mineral rights;
- Avoidance/buffering of areas of special ecological consideration, as determined through an environmental review;
- Minimization techniques, such as required the use of existing road networks to minimize forest fragmentation by new disturbance; and
- Reclamation and restoration of gas activity sites, both interim and permanent

With the most protective lease of any public agency of which I am aware, and a collaborative effort with our lessees to develop best management practices around drilling to supplement the protections built in to its 75 page lease document, Pennsylvania’s DCNR is working hard to get ahead of the Marcellus curve. Whether the agency will succeed in this challenging budgetary climate remains to be seen.

DCNR, at my direction, also developed a comprehensive monitoring program to begin to gather the data necessary to comprehensively understand the impacts of Marcellus exploration on the public lands. This monitoring program will need to be a permanent, and growing, feature of DCNR’s work if they are to have a hope of preserving the state forest for future generations of Pennsylvanians.

I want to spend a few minutes to focus water. Keep in mind that fracing technology was developed in states with different land forms; it is being applied to eastern forests for the first time in Pennsylvania. We have much to learn and ample reasons for caution.

Pennsylvania has already experienced major problems with gas migration and contamination of drinking water wells, caused largely by improper well construction. We have had leaks of wastewater pits. We have had fracing fluid and diesel and other spills at the surface. We have
had well blowouts, explosions, and fires. We have had gas bubbling in the middle of the Susquehanna River. We have had groundwater contaminated, but not from the fracing itself – yet, anyway.

The sheer number of wells that are being drilled and that will be drilled in the coming decades – hundreds of thousands, according to industry estimates – makes these incidents inevitable; indeed a daily occurrence across Pennsylvania. Even if every company does tries to do everything right – as many if not most do – accidents will happen. In the best case, human error and bad luck will intrude. There have already been thousands of recorded violations of environmental regulations. State government must plan accordingly, with a full regulatory program and robust enforcement.

Industry claims it is reusing most or all of its fracwater. Is it? How much of it? Is usage being tracked adequately? Surely, there is a dearth of wastewater treatment facilities that can handle the brines and the naturally occurring radioactive material in what the industry terms “process water.” State government must be vigilant in the exercise of its enforcement responsibilities.

In Pennsylvania, gas drilling for decades has involved injecting water underground. Most of that has been done at shallower depths than Marcellus. The fracing taking place to access Marcellus is typically more than 4000 feet below ground water. Is there a risk to groundwater? Is there a possibility that fracing could have water return from depth or leak in the drilling process before it gets to depth or as flowback occurs and contaminate groundwater? No one can say the chance is zero.

Is it a substantial threat?

I do not know, and among the professional geologists and academics I have consulted, there is uncertainty.

But I do know that an abundance of caution in the protection of our irreplaceable water resources is defensible. It is necessary. More study – beyond the good work that EPA is doing at the
Federal level – is needed. There is a need for scientific research on the impacts of fracing to groundwater, and long term monitoring. Regulation must follow wherever the science leads.

In addition to environmental and ecological impacts, Pennsylvania’s northern tier in particular is seeing significant social and public impacts from gas development activities – and from the influx of out of state workers that drilling companies are bringing to Pennsylvania. Local roads that were not built to handle heavy truck traffic explode in spring thaws. Bridges must be weight-limited. There have been spikes in social problems – crime, substance abuse, unplanned teen pregnancies, and displacement of low income persons from housing as available rental units are snapped up by the industry. Demand for social services has spiked. All are consequential, and Maryland would do well to consider what is happening in Pennsylvania as a cautionary tale.

Regulation done right is a powerful answer to many of these problems. Regulation of the gas industry will limit land impacts and insure restoration of land. It will insure that water remains safe to drink, and allow local communities to responsibly zone drilling, with adequate setbacks, well spacing requirements, and no-drill zones like floodplains. Regulation means protecting local government authority. It means that wells must be adequately constructed, and bonded so that they are properly sealed at the end of their useful life and not abandoned.

Only when the industry is well-regulated will we be able to say that gas is produced responsibly.

And natural gas production must also be taxed responsibly. Permits should cover the full costs of enforcement and administration, but in addition, gas should be taxed to pay for environmental cleanup, to make whole communities that are impacted by drilling, to support the basic functions of government in a challenging fiscal climate, and indeed to facilitate the shift to cleaner burning sources of energy that grow our economy and protect public health and the environment. Pennsylvania is currently the only gas-producing state in the nation that does not have a drilling tax – the frankly shameful result of industry influence buying in Harrisburg. Maryland should not follow Pennsylvania’s lead on that sorry score. Enact a drilling tax now.

With a prudent, thoughtful public policy response, Marcellus shale natural gas development in
our states can be an environmental victory that grows our economy. Whether Maryland achieves that victory is up to you.

Thank you.