TESTIMONY OF

STEPHANIE CATARINO WISSMAN, EXECUTIVE DIRECTOR

API PENNSYLVANIA

A DIVISION OF THE AMERICAN PETROLEUM INSTITUTE

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Chairman Metcalfe, Chairman Vitali and members of the House Environmental Resources and Energy Committee, on behalf of the American Petroleum Institute (API), I appreciate the opportunity to provide a “State of the State” reading on the natural gas and oil industry.

Despite the 2020 COVID-19 pandemic causing a recession and posing myriad challenges over the past year, the natural gas industry has continued to power Pennsylvania’s economy and enhance our everyday lives. From the moment we get out of bed in the morning until we lie down at night, we depend on energy from natural gas. If you think about it, most aspects of our modern lives – from the roads we drive on to the medicine we take and clothing we wear – are touched in some way by the energy from natural gas.

The industry has resoundingly stepped up to these challenges by donating meals to community food pantries and front-line workers; providing care packages to local residents; issuing grants for community support focusing on emergency responses, easing food insecurity, aiding health and human services and K-12 distance learning solutions for public schools; donating thousands of gallons of medical grade sanitizers to states to distribute and, donating millions of gallons of jet fuel to help with the distribution of personal protective equipment in the battle against COVID-19. Beyond our role as good corporate citizens, the natural gas and oil industry has also remained key to fueling our economic recovery and producing essential products. Without natural gas and its liquid bi-products, modern medical equipment and PPE would not be possible.

Thanks in large part to Pennsylvania – now the second-largest natural gas-producing state in the country – the U.S. currently leads the world in the production of natural gas. This has benefitted American consumers by driving lower energy costs and greenhouse gas emissions. In fact, natural gas supplied a record-high 40% of U.S. net electricity generation in 2020 per the U.S. Energy Information Administration (EIA) and drove U.S. carbon emissions from power generation to their lowest levels in over 30 years.

In Pennsylvania, greenhouse gas emissions from electricity generation fell between 2005 and 2017 by 38% based on the 2020 PA GHG Emission Inventory. This was driven in large part by clean natural gas from Pennsylvania’s Marcellus shale and other shale plays as well as advancements in energy efficiency.

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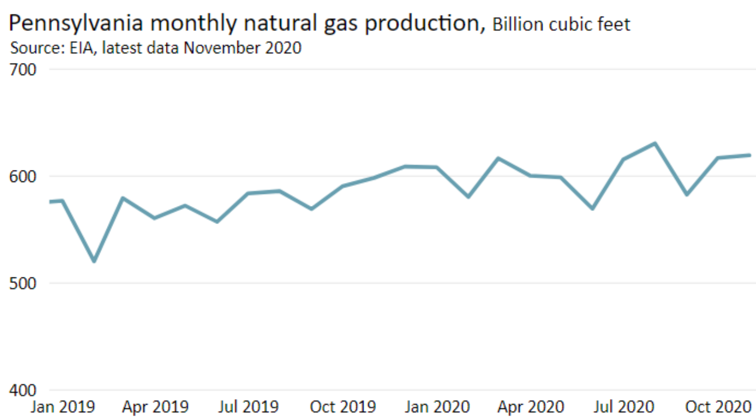
[1] API is the national trade association representing all aspects of America’s oil and natural gas industry. Our 600 corporate members - from large integrated oil and gas companies to small independent companies - comprise all segments of the industry. API member companies are producers, refiners, suppliers, retailers, pipeline operators and marine transporters as well as service and supply companies providing much of the nation’s energy. As a standards-setting organization for more than 100 years, API also maintains more than 700 standards and recommended practices (RPs), many of which are incorporated into state and federal regulations.

More precisely, using EIA's data on net generation shows that over 80% of the decrease in coal generation between 2005 and 2017 was partially offset by the expanded use of natural gas, which went from 5% of the generation mix in 2005 to 34% in 2017, an increase of 580%.

This comparison applies far beyond Pennsylvania. When it comes to carbon dioxide, no nation has reduced emissions more than the United States has over the last decade, thanks largely to clean natural gas. Additionally, natural gas has fundamentally enabled the increased utilization of renewables by providing the most cost-effective way to stabilize the electricity grid due to the intermittencies of wind and solar generation.

The natural gas and oil industry recognizes that the risks of climate change are real. That's why we spearheaded The Environmental Partnership to continuously improve our environmental performance by taking action, learning about and implementing best practices and technologies, and fostering collaboration to responsibly develop our nation's essential natural gas and oil resources. More than 90 companies, representing more than 70% of U.S. onshore oil and natural gas production, have voluntarily joined this initiative to aggressively reduce air emissions, both methane and volatile organic compounds (VOCs), from our production and transmission segments.

Chart 1.



Pennsylvania's natural gas industry has progressed despite the 2020 COVID-19 recession. As of November 2020 (latest), Pennsylvania marketed natural gas production was 20.6 billion cubic feet per day (bcf/d) per EIA, which represents an increase of 3.5% y/y and more than one-fifth of U.S. natural gas marketed production. By contrast, Pennsylvania accounted for about one percent of U.S. natural gas marketed production in 2009.

Chart 2. 527 new well completions in 2020. See map below of current unconventional active gas wells in the Commonwealth.

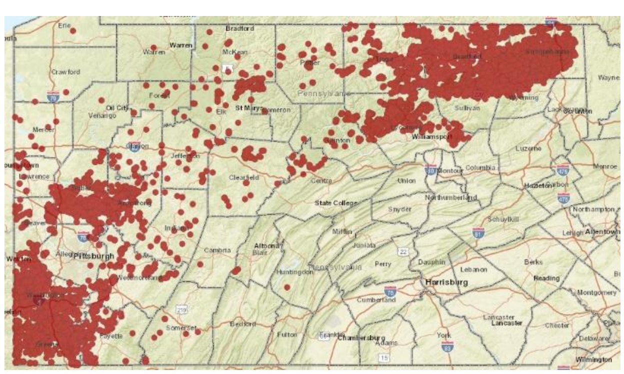
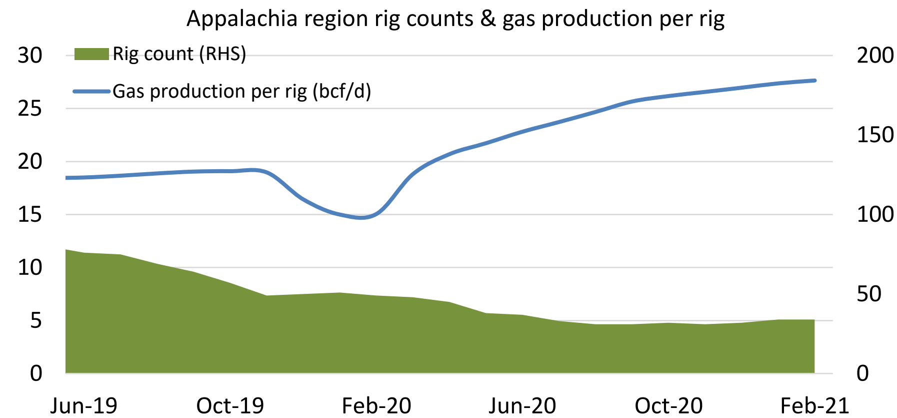


Chart 3.



Natural gas upstream activity in the Commonwealth has been resilient through the 2020 COVID-19 recession. The state's Department of Environmental Protection reported 527 oil and natural gas wells were drilled in Pennsylvania last year -- lower than in recent years but nonetheless a feat given the industry and broader economic conditions during the pandemic and resulting recession. This was even more remarkable given that the number of active drilling rigs in Pennsylvania declined to 18 rigs as of February 2021 from averages of 21 rigs in 2020 and 38 rigs in 2019. Sustaining -- and even increasing – natural gas production despite lower drilling activity demonstrates that Pennsylvania's industry has continued to raise its productivity by innovating out of necessity, advancing our technologies and processes in the field, and reducing environmental and surface disturbances with fewer roadway and associated impacts.

From an economic standpoint, the natural gas and oil industry supports nearly 500,000 direct and indirect jobs in Pennsylvania, according to a study by Pricewaterhouse Coopers. In 2019, jobs in the oil and gas upstream sectors nationally had an average salary of $119,573, about twice the average salary of $58,766.

With an approximate expenditure of $9 million per well (based on Considine 2017 working paper "Revisiting the Economic Impacts of Fracking in Pennsylvania" page 36) drilling activity alone represented over $7 billion investment into the Pennsylvania economy in 2019.

From heating homes, schools and hospitals to generating clean and reliable electricity, natural gas and petroleum products touch nearly every aspect of life in Pennsylvania. This includes providing jobs and the building blocks for goods that we use daily. While the Keystone state is a top-ten energy consumer in the country, its abundant resources and infrastructure system enable it to be the second largest net supplier of total energy to other states. To achieve this feat, Pennsylvania relies on pipelines to safely transport these products. It is important to consider that there are over 3,000 miles of liquid pipelines in Pennsylvania, along with over 10,000 miles of natural gas transmission pipelines that safely transport energy products, and this infrastructure is an essential component in connecting production to markets, and even to our homes.

Our industry's commitment to safe operations is evident by the strong safety record, with 99.99% of the oil, petroleum products, and natural gas delivered safely to their destination via pipeline. Few industries can claim this kind of a safety record. Protecting the public and the environment is a top priority for pipeline operators and a central component to pipeline design, construction, and maintenance. Behind the scenes, pipeline operators are regularly inspecting their pipelines with state-of-the-art diagnostic tools and conducting preventative maintenance, monitoring their safe operations 24/7 looking for signs of trouble and practicing how to respond rapidly to a pipeline emergency if one were to occur.

While the primary goal is preventing incidents before they occur, pipeline operators are ready to respond in partnership with State and local first responders and government authorities to protect local communities and the environment. Pipeline operators maintain detailed action plans to know in advance who to contact in case of an emergency and have support personnel and equipment ready to rapidly deploy to an incident site.

Despite the 2020 COVID-19 recession, Pennsylvania's production of clean, competitive and cost-effective energy is helping to revive American manufacturing and restore jobs that many people thought were gone forever. And manufacturers have saved tens of billions of dollars in energy costs that have freed capital for follow-on investments. The soon to be ethane cracker and derivatives complex in Beaver County is a solid example and with the majority of U.S. automotive manufacturing within a 500-mile radius, it stands to add additional manufacturing jobs and value to Pennsylvania and the region.

The task for this committee, our state government and regulatory agencies is to provide a climate where Pennsylvania can sustain and build on this momentum and environmental progress. While Pennsylvania's natural gas has achieved a broad market reach across the Gulf Coast, westward and even backed out imports of Canadian natural gas, effectively reversing pipeline flows of natural gas as they existed before the energy revolution, new and increased taxes on this or any industry could raise consumer prices, slow growth and investment, and reduce the state's competitiveness at a time when the industry has been fortunate to weather a historic downturn.

In 2020, U.S. natural gas consumption fell by 2.5% y/y (2.1 billion cubic feet per day, bcf/d), mainly due to decreased residential and commercial heating needs and industrial demand through the 2020 COVID-19 recession.[1] Consequently, natural gas spot prices at Henry Hub averaged $2.03 mmBtu, their lowest in more than two decades. The low prices motivated less production, which fell nationwide for the first time since 2016 despite record-high natural gas demand for electricity generation and exports.[2]

It is also important to remember that Appalachia region hubs generally track lower than Henry Hub prices. Last year for instance, the average price among selected Marcellus gas hubs (Dominion South, Leidy and Tennessee Gas Pipeline Zone 4 Marcellus) was about $0.60 (per million Btu) below Henry Hub. And, we have seen that discount, or price differential, at more than $1.00 under Henry. This places producers in Pennsylvania at a competitive disadvantage to those operating in other regions.

For 2021, EIA expects total U.S. dry gas production to decrease by 2.4% y/y (2.3 billion cubic feet per day, bcf/d), due to historically low drilling activity and less gas associated with U.S. oil production. In their view, this could correspond with spot prices at Henry Hub averaging over $3.00 per million Btu in 2021 for the first time since 2018. However, they also estimate that these prices could back out 3.5bcf/d of natural gas from electricity generation and more than offset a potential recovery in other sectors' consumption as well as continued U.S. natural gas export growth. Consequently, EIA sees smaller recent and prospective natural gas markets into which Pennsylvania and other producing states must compete. This increases the difficulty for Pennsylvania to sustain the progress that it has made despite the 2020 COVID-19 recession.

[1] EIA Short-term energy outlook, January, 2021, see https://www.eia.gov/outlooks/steo/

[2] EIA, see https://www.eia.gov/electricity/data.php

Importantly, while the natural gas and oil industry is among the most stringently regulated industries, the transformation that you have seen in Pennsylvania's industry – and the consequent environmental progress – has come by virtue of market forces, industry innovation, a stable and predictable state fiscal regime as well as the expansion of gas processing and pipeline infrastructure. These ingredients have sustained the industry through unprecedented recent challenges and, if EIA's view proves to be correct, will remain key in surmounting the challenges of a smaller U.S. gas market in 2021. For the foregoing reasons, I urge you to stay the course in Pennsylvania's tax and energy policies, thereby giving the state and industry its best fighting chance to continue to power our economy, spur industrial growth and economic development, and further advance the tremendous carbon reductions and environmental improvements we have seen.

Once again, thank you for allowing me to testify on behalf of API and our member companies.