



Opening Statement of Keith J. Coyle, Esq.

Pennsylvania House of Representatives
Environmental Resources & Energy Committee

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Wellhead to Stovetop – Conveying Energy in PA

Chairman Metcalfe, Chairman Vitali, and other Members of the Committee, thank you for inviting me here today to share my thoughts on conveying energy in Pennsylvania.

My name is Keith Coyle, and I am testifying on behalf of the Marcellus Shale Coalition, or MSC, one of the region's most important advocacy groups for the energy industry. My primary involvement with the MSC is as Chair of the Pipeline Safety Workgroup, a position that I have held for the past several years. I am also a Shareholder in the Washington, D.C. office of Babst Calland, a Pittsburgh, Pennsylvania-based law firm that represents various clients in the energy industry.

As a member of Babst Calland's Transportation Safety Group, I focus primarily on matters involving pipeline safety and the transportation of hazardous materials. Before joining Babst Calland, I served as an Attorney Advisor for the Pipeline and Hazardous Materials Safety Administration, or PHMSA, the federal agency that administers the nation's pipeline safety program. I also served as a member of Governor Wolf's Pipeline Infrastructure Task Force, participating on the Pipeline Safety and Integrity Workgroup.

The main topic that I intend to cover this morning is the role of natural gas in the energy sector. First, I would like to discuss the origins



and evolution of the natural gas industry to provide a better understanding of the forces that have shaped its growth and development. Second, I would like to highlight the contribution that the natural gas industry makes to the energy sector. Third, I would like to discuss the importance of pipelines as a means of transporting natural gas from the wellhead to consumers. Finally, I would like to offer some thoughts on the policies that should be considered in securing Pennsylvania's energy future.

By way of background, the origins of the natural gas industry date back more than 200 years to the creation of the Gas Light Company of Baltimore.¹ Formed in 1816, the Company distributed manufactured gas through wooden pipelines to provide the city with street light service. Unlike natural gas extracted from the ground, the manufactured gas used to light the streets of Baltimore was produced from the carbonization of coal. A few years later, in 1821, William Hart drilled the nation's first natural gas well in Fredonia, New York. Mr. Hart also installed a wooden pipeline to supply natural gas from his well to local customers.²

In the years following these early industry achievements, gas companies began to form to serve other urban areas in United States, including Philadelphia, Pennsylvania, where a manufactured gas plant and cast iron pipeline distribution system were installed in the late 1830s.³ The industry continued to expand throughout the 19th century, with nearly 300 gas companies serving more than 4 million customers by the end of the 1850s, and nearly 1,000 gas companies serving more than 24 million customers by the end of the 1880s.⁴ But technological constraints,

¹ The Gas Light Company of Baltimore, Today in Science History, reprinted from History of Baltimore City and County (1881), [https://todayinsci.com/Events/Technology/GasLightCoBaltimore\(1881\).htm](https://todayinsci.com/Events/Technology/GasLightCoBaltimore(1881).htm)

² Nation's first gas well was dug in Western New York, The Buffalo News (Oct. 12, 2016), https://buffalonews.com/business/local/nation-s-first-gas-well-was-dug-in-western-new-york/article_be62a436-6b68-552e-be33-a310addfd7e7.html.

³ Herbert Ershkowitz, Philadelphia Gas Works, The Encyclopedia of Greater Philadelphia (2015), <https://philadelphiaencyclopedia.org/essays/philadelphia-gas-works/#:~:text=PGW%20originated%20in%20the%201830s,lacked%20a%20municipal%20gas%20works>.

⁴ Van Ness Feldman, Natural Gas Pipeline Safety and Reliability: An Assessment of Progress at 7, <https://gasfoundation.org/wp-content/uploads/2019/10/pipelinesafety.pdf>.



particularly in pipeline transportation, effectively limited the use of natural gas to local markets.

The industry overcame these constraints in the late 19th and early 20th centuries as improvements in steelmaking, pipe manufacturing, welding, and gas compression paved the way for larger-diameter, higher-pressure pipelines.⁵ With the introduction of pipelines that could serve distant markets, natural gas became a more viable national energy resource, prompting a three-fold increase in marketed production between 1920 and 1940.⁶

Natural gas use continued to grow following World War II, increasing from approximately 17 percent of the country's total energy consumption in 1950 to 29 percent in 1965.⁷ The nation's gas pipeline network also continued to expand, increasing to about 800,000 total miles by the late 1960s.⁸ Facing competition from a more efficient energy resource, the use of manufactured gas declined significantly throughout this period until that product ceased to be a commercially viable source of energy.⁹

The era of rapid post-war growth in the industry peaked in 1970, with natural gas accounting for about 32 percent of the country's total energy consumption.¹⁰ Domestic gas use then entered a prolonged period of stagnation and decline, and total consumption did not exceed the 1970

⁵ John F. Kiefner & Cheryl J. Trench, Oil Pipeline Characteristics and Risk Factors: Illustrations from the Decade of Construction at 12 to 16, <https://www.api.org/~media/files/oil-and-natural-gas/ppts/other-files/decadefinal.pdf?la=en>.

⁶ U.S. Energy Information Administration, U.S. Natural Gas Marketed Production, <https://www.eia.gov/dnav/ng/hist/n9050us2a.htm>.

⁷ CRS Report for Congress, Energy: Useful Facts and Numbers, CRS-5 (Mar. 18, 2004), <https://sgp.fas.org/crs/RL31849.pdf>.

⁸ Van Ness Feldman, Natural Gas Pipeline Safety and Reliability: An Assessment of Progress at 8, <https://gasfoundation.org/wp-content/uploads/2019/10/pipelinesafety.pdf>.

⁹ EH.net, Manufactured and Natural Gas Industry, <https://eh.net/encyclopedia/manufactured-and-natural-gas-industry/>.

¹⁰ CRS Report for Congress, Energy: Useful Facts and Numbers, CRS-5 (Mar. 18, 2004), <https://sgp.fas.org/crs/RL31849.pdf>.



peak until the mid-1990s, raising questions about the industry's future. At around the same time, however, the industry began to experiment with the use of horizontal drilling and hydraulic fracturing to enhance natural gas production in the Barnett Shale region of Texas, setting the stage for another era of remarkable growth.¹¹

In the mid-2000s, the industry started to use these methods to produce natural gas from the Marcellus Shale, a rock formation located underneath portions of Pennsylvania and several adjacent states. The results were nothing less than astonishing, as natural gas production increased from less than 5 billion cubic feet per day in 2010 to more than 30 billion cubic feet per day by 2020.¹² Similar increases in natural gas production occurred in other shale plays, making the United States the world's largest producer of natural gas.¹³

The recent changes in the natural gas industry will affect the domestic energy sector for years to come. Natural gas currently accounts for about one-third of the country's primary energy production and consumption.¹⁴ Natural gas is the leading energy source for the industrial and electric power sectors, and the second leading energy source for the residential and commercial sectors. While renewable energy is expected to make a greater contribution in the future, the latest data indicates that natural gas will account for a significant portion of the nation's energy production and consumption for decades.¹⁵

¹¹ An Energy Revolution: 35 Years of Fracking in the Barnett Shale, How North Texas Fracking Turned America Into an Energy Superpower, A North Texas for Natural Gas Special Report (Jun. 1, 2016), <https://d3n8a8pro7vhmx.cloudfront.net/themes/55dc9a8f2213933dc0000001/attachments/original/1464723479/BarnettShale.pdf?1464723479>.

¹² <https://www.eia.gov/todayinenergy/detail.php?id=49377>

¹³ <https://www.eia.gov/energyexplained/natural-gas/where-our-natural-gas-comes-from.php>

¹⁴ U.S. Energy Information Administration, U.S. energy facts explained, <https://www.eia.gov/energyexplained/us-energy-facts/>.

¹⁵ U.S. Energy Information Administration, Annual Energy Outlook 2021 with projections to 2050 (Feb. 2021), <https://www.eia.gov/outlooks/aeo/pdf/01%20AEO2021%20Market%20overview%20and%20Critical%20drivers.pdf>



Pennsylvania's abundant natural gas resources are critical to securing America's energy future. The Commonwealth currently produces more natural gas than any state other than Texas, and natural gas serves as the primary source of heating fuel for about half of all households.¹⁶ Pennsylvania contains more underground natural gas storage sites than any other state and performs an essential function in meeting seasonal changes in energy demand. The Commonwealth is also the third largest supplier of energy to other states, trailing only Wyoming and Texas.

The industry is committed to securing that energy future through the safe and responsible development of Pennsylvania's natural gas resources, starting at the well pad. Pennsylvania's permitting and environmental requirements are among the strictest in the nation, and the Commonwealth's Oil and Gas Act, as amended by Act 13 of 2012, is a model statute emulated across the nation. The natural gas industry must obtain several permits before commencing well pad operations, including drilling permits, erosion and sediment control permits, and, in some cases, air quality permits. The requirements in other state laws, such as the Solid Waste Management Act, the Clean Streams Law, the Air Pollution Control Act, and the Radiation Protection Act, also apply.

The natural gas industry's commitment to protecting public health, safety, and the environment goes beyond compliance. The industry has helped to reduce carbon dioxide emissions from Pennsylvania's power sector by more than 40 percent since 2005, and the methane emissions intensity of the Appalachian Basin, the world's third largest gas producing region, is among the lowest of all major shale basins globally. The industry has generated more than 2 billion dollars in revenue for local government since 2012 and provided more than 500 million dollars in

¹⁶ U.S. Energy Information Administration, Pennsylvania State Profile and Energy Estimates, <https://www.eia.gov/state/?sid=PA#tabs-2>.



funding for statewide environmental protection through the Commonwealth's unconventional gas well impact fee.¹⁷

The natural gas industry is committed to making pipelines a safe and responsible part of that energy future, too. Nearly all of the nation's natural gas is transported by pipeline,¹⁸ and there are more than 3 million miles of gas pipelines in the United States,¹⁹ including approximately 90,000 miles in Pennsylvania.²⁰ The Commonwealth's pipeline network includes more than 78,000 miles of gas distribution lines and more than 10,000 miles of gas transmission lines, as well as a significant amount of gathering lines that deliver natural gas from the wellhead to central collection points for further processing or transportation.

Pipelines are by far the safest means of transporting natural gas, causing far fewer fatalities and injuries than other modes of transportation.²¹ More than 38,000 transportation-related fatalities occurred in the United States in 2019, and about 95% of those fatalities, or slightly more than 36,000, involved highway motor vehicles. Only 12 fatalities involved pipelines. More than 2.7 million transportation-related injuries occurred in 2018, and about 99% of those injuries involved highway motor vehicles. Only 81 injuries involved pipelines.

The gas pipeline industry's strong safety record is the product of several factors. The industry invests billions of dollars each year on pipeline safety and participates in the various organizations that produce the technical codes and standards that govern all aspects of pipeline development. The industry continues to pursue innovation through

¹⁷ Marcellus Shale Coalition, 10 Fast Facts About Responsible Shale Development, <https://marcelluscoalition.org/wp-content/uploads/2022/03/10-Fast-Facts.pdf>.

¹⁸ U.S. Energy Information Administration, Natural gas pipelines explained, <https://www.eia.gov/energyexplained/natural-gas/natural-gas-pipelines.php> (last visited Aug. 16, 2021).

¹⁹ <https://sgp.fas.org/crs/misc/R44201.pdf>

²⁰ Pipeline Mileage and Facilities, PHMSA, <https://www.phmsa.dot.gov/data-and-statistics/pipeline/pipeline-mileage-and-facilities> (follow "2010+ Pipeline Miles and Facilities").

²¹ U.S. Department of Transportation, Bureau of Transportation Statistics, Transportation Statistics Annual Report 2020, 6-3, <https://rosap.ntl.bts.gov/view/dot/53936>.



research and development initiatives, including improvements in pipeline materials, inline inspection tools, leak detection and repair, and other technologies.

A robust gas pipeline safety program, administered at the federal level by PHMSA and at the state level by the Pennsylvania Public Utility Commission, compliments these efforts. The gas pipeline safety regulations establish comprehensive requirements for pipeline materials, design, construction, testing, operation, maintenance, and integrity management. Like well pad operations, natural gas pipelines are also subject to additional permitting requirements, including for erosion and sediment control, air quality, and certain waterway and wetland crossings. Pipeline operators are required to participate in the Commonwealth's One Call System as well, a program designed to prevent damage to pipelines and other underground facilities.

I urge the members of this Committee to recognize the importance of the natural gas industry in making choices that could affect Pennsylvania's energy future. Policies that impose unnecessary barriers on natural gas production or that prohibit the installation of pipeline infrastructure will create an energy system that is far less secure, particularly in the short term. The basic needs of everyday Americans cannot be met if one-third of the country's primary energy production is unavailable or cannot be safely and reliably delivered to consumers. Nor can the needs of the Commonwealth's citizens be met without the natural gas that heats its homes and runs its power plants. As the recent developments in Europe show, policies that fail to account for the energy needs of a modern society are not progressive and often cause the greatest harm to those who are the most vulnerable.

On behalf of the MSC, I would like to thank the Committee for inviting me here today to testify about the natural gas industry's role in



conveying energy in Pennsylvania. I look forward to hearing your concerns and addressing your questions.