



Testimony

Submitted on behalf of the
Pennsylvania Chamber of Business and Industry

Informational Hearing
The Consumer and Economic Impacts of Failing to Invest in Natural Gas Infrastructure

Before the:
Senate Environmental Resources and Energy Committee
Senate Community, Recreational and Economic Development Committee

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Harrisburg, PA
October 4, 2021

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Good afternoon Chairmen Yaw and Yudichak, Minority Chairs Comitta and Cappelletti, and members of the committees,

Thank you for the opportunity to address you this afternoon regarding the obstructive policies by neighboring states that have had a detrimental impact to economic development in Pennsylvania.

My name is Kevin Sunday, director of government affairs for the Pennsylvania Chamber of Business and Industry, the largest, broad-based business advocacy organization in the Commonwealth. We represent more than 9,000 member companies across all industrial and commercial categories, ranging in size from sole proprietorships to Fortune 100 companies.

As we look to recover from the pandemic, we are organizing around a member-driven economic recovery initiative, Bringing PA Back, which will define the steps this state needs to take to position its economy for long-term success and improved quality of opportunity for all of its citizens. A key pillar of this initiative is building the infrastructure necessary for global competitiveness, which includes digital, broadband and wireless assets; ports, roads, rail, and air networks; and energy assets like transmission and pipelines to deliver our competitively produced energy to markets in Pennsylvania, the region and across the globe.

Quite frankly, no one should have been satisfied with the state of our economy prior to the pandemic, let alone its current state. It is one thing for our economy to lose out on opportunity because our policymakers have not taken enough steps to encourage retention and expanded investment in this state; it is quite another for neighboring states to actively take steps to disadvantage our energy and manufacturing sectors. This testimony will highlight the energy and economic success this state has had by embracing competitive markets and domestic energy production, as well as a discussion of steps neighboring states have taken to erode that success by abusing the regulatory process to block energy infrastructure and diminish our economy.

Thank you for the opportunity to appear before you today, along with other leaders in labor, manufacturing and consumer groups who are united in our support for a dynamic Pennsylvania economy that leverages our historic strengths into long-term success in an increasingly competitive and dynamic global marketplace.

Pennsylvania's Embrace of Competitive Markets Have Yielded Enormous Economic and Environmental Gains, with Natural Gas Leading the Energy Transition

Among all states, Pennsylvania ranks second in total energy production, second in natural gas production, second in installed nuclear capacity, third in coal production, third in electricity production and eighth in manufacturing output. Pennsylvania is also the largest net-exporter of electricity in the nation, according to a recent analysis by the U.S. Energy Information Administration (EIA).¹ Pennsylvania exported 36 percent of total megawatt hours in 2019. Pennsylvania is also the largest power producer in the 13-state PJM grid, the largest grid in the country and one that delivers power to the homes, schools, and workplaces of more than 65 million Americans. The competitive markets managed by PJM have resulted in significant reductions in NAAQS criteria and greenhouse gas emissions from the power generation sector. Since 2005, as natural gas led a transition in the market, carbon dioxide emission fell across PJM by 34% in large part due to competition among generation and improvements in technology.² Remarkably, Pennsylvania has remained in a leadership position with respect to power generation and net exports even with a substantial decrease in

¹ Today in Energy, December 7, 2020. US EIA. <https://www.eia.gov/todayinenergy/detail.php?id=46156>

² Emissions Continue to Drop Throughout PJM Footprint. PJM Interconnection, March 4, 2020. <https://insidelines.pjm.com/emissions-continue-to-drop-throughout-pjm-footprint/>

both tons of emissions and emissions intensity among the portfolio. According to a profile of the state's generation and transmission assets compiled by PJM³, Pennsylvania's average CO₂ intensity declined from approximately 1,100 lbs/MWh in 2005 to approximately 720 lbs/MWh in 2020 (a reduction of 34 percent), and SO₂ intensity declined from 10 lbs/MWh in 2005 to less than 1 lb/MWh in 2020 (a reduction of more than 90 percent). Since 2005, only one other state has reduced its energy-related CO₂ emissions more in terms of absolute tons.⁴ Additional reductions from our state's power generation sector are expected to continue, with PJM reporting thousands of new megawatts of natural gas, solar, wind and storage in the queue.

Overall, Pennsylvania's industrial sources have achieved significant declines in emissions of federally regulated pollutants over the past several decades. According to data available on PA DEP and US EPA's websites, these reductions include decline in annual emissions of NO_x on the order of 65 percent, SO₂ by 90 percent, CO by 69 percent, VOCs by 36 percent and PM 10 by 37 percent. Further, these reductions are yielding a demonstrable improvement in air quality. Every monitoring point in the state is measuring attainment for the 2008 ozone standards of 75 ppb, and in just one year the number of monitoring points measuring non-attainment for the 2015 ozone standard of 70 ppb fell from eight to just four. The state is also measuring attainment at all points for both the annual and 24-hour standards from PM 2.5, and the Allegheny County Health Department announced in February that for the first time in decades its monitors were measuring healthy levels of air quality for all criteria pollutants.

Pennsylvania's contributions to growing the economy while reducing energy prices and emissions have positioned the United States for leadership in sustainable growth. As EPA's Acting Assistant Administrator Joseph Goffman noted in a recent memo to regional offices, "ongoing changes in electricity generation mean that the emission reduction goals that the [Obama administration's Clean Power Plan] for 2030 have already been achieved."⁵ From 2005 to 2019, according to an analysis of World Bank, EIA and International Energy Agency data⁶, the United States' economy grew by 64 percent, to roughly \$21.4 trillion in GDP, while reducing carbon dioxide emissions by 16%. Over the same period, Europe's economy grew at half the same pace (31 percent) yet lagged the United States on emissions reductions on an absolute basis – a reduction of 742 mmt for Europe compared to a reduction of 936 mmt for the United States, or a delta of 210 million metric tons of CO₂. More broadly, over the same 15 year period, OECD countries as a whole reduced on net carbon dioxide emissions by 1,524 mmt – of which the United States can proudly lay claim to having been responsible for more than 60 percent of those reductions. Policymakers must not lose sight of the fact that while these reductions were taking place in the developed world, as the economies of India and China grew, so did their greenhouse gas emissions. India's CO₂ emissions grew by more than 1,200 mmt, or a 115 percent increase, nearly singlehandedly dwarfing reductions in OECD countries. China's emissions grew by 4,400 mmt, or an 81 percent increase – nearly three times the total reductions of OECD countries. Further, as this international comparison in emissions demonstrates, the offshoring of domestic manufacturing as a

³ 2019 Pennsylvania State Infrastructure Report. PJM Interconnection, July 2020. <https://www.pjm.com/-/media/library/reports-notices/state-specific-reports/2019/2019-pennsylvania-state-infrastructure-report.ashx?la=en>

⁴ State Energy-Related CO₂ Emissions by Year, Adjusted (1990-2018). US Energy Information Administration, March 2, 2021. <https://www.eia.gov/environment/emissions/state/>

⁵ Memorandum to EPA Regional Administrators: Status of Affordable Clean Energy Rule and Clean Power Plan. United States Environmental Protection Agency Office of Air and Radiation. Feb. 12, 2021.

⁶ World Bank Open Data, March 9, 2021. <https://data.worldbank.org/>
International Energy Statistics, US EIA. <https://www.eia.gov/international/data/world>
CO₂ Emissions from Fuel Combustion, International Energy Agency.
http://wds.iea.org/wds/pdf/Worldco2_Documentation.pdf

result of uncompetitive tax, labor and regulatory policy will result in operations in countries that have much higher emissions intensities.

The significant declines in air emissions have also been paired with decreases in the commodity costs within PJM's energy markets. In 2020, prices in the energy markets were the lowest in the 21-year history of the RTO's organized markets. Energy markets provide approximately two-thirds of the weight of wholesale power prices in PJM. Wholesale prices across PJM for 2020 were the lowest in 15 years, according to the Independent Market Monitor's recent annual report.⁷

With specific regards to the commodity cost components of gas utility bills, utilities' purchased gas costs are between 67% and 83% lower compared to 2008 levels. These costs are passed directly to consumers with no mark-up by the utility. Absent infrastructure buildout and the onset of production from the Marcellus shale that has occurred since 2008, the average household would be paying between \$1,368 and \$2,467 more annually on commodity charges. Commercial customers would be paying between \$3,800 and \$6,855 more per year, and large commercial and industrial customers would be paying between \$68,400 and \$123,390 more.⁸

Expanded Natural Gas Infrastructure is Necessary to Provide Reliable Energy to the Region, Power the Economy and Meet Climate Goals

The North American Electric Reliability Corporation, or NERC, is charged by federal law to develop and enforce reliability standards in the grids across the United States. NERC has highlighted in various reports that New England is in a precarious position on energy security due to pipeline constraints that have been amplified by anti-infrastructure activists. NERC also noted in a 2019 report on reliability within PJM that "new natural gas infrastructure is needed to support the changing resource mix" as economics and state and federal policy encourage more variable resources onto the grid.⁹

ISO-NE, the grid operator for New England has plainly stated there is a need for additional gas pipeline infrastructure to deliver gas from Pennsylvania and other Appalachian states. As ISO-NE notes on its website, "[d]uring the last few years, inadequate infrastructure to transport natural gas has at times affected the ability of natural-gas-fired plants to get the fuel they need to perform. This energy-security risk has become a pressing concern in New England, considering the major role natural-gas-fired generation plays in keeping the lights on and setting prices for wholesale electricity."¹⁰ In its 2018 Operational Fuel Security Analysis, ISO-NE warned that without new gas infrastructure it will likely have to impose rolling blackouts and managed outages during future winters.¹¹ The grid operator also notes that when gas supply is constrained, higher-emitting fuel sources, not renewables, are what has operated in winter months, resulting in detrimental impacts to air quality. New England already faces the highest electricity costs in the country, with industrial customers paying twice the national average for natural gas service.

⁷ 2020 State of the Market Report for PJM. Independent Market Monitor, March 2021.

https://www.monitoringanalytics.com/reports/PJM_State_of_the_Market/2020/2020-som-pjm-sec1.pdf

⁸ Purchased Gas Costs, Pennsylvania Public Utility Commission. <https://www.puc.pa.gov/NaturalGas/pdf/PGC.pdf>

⁹ Energy Assurance and the Changing Resource Mix. North American Reliability Corporation, April 2019.

<https://www.pjm.com/-/media/committees-groups/task-forces/fsstf/20190405/20190405-item-05-nerc-special-reliability-assessment-and-related-nerc-initiatives.ashx/>

¹⁰ Natural Gas Infrastructure Constrains. ISO New England. <https://www.iso-ne.com/about/what-we-do/in-depth/natural-gas-infrastructure-constraints>

¹¹ Operational Fuel-Security Analysis. ISO New England, January 2018. https://www.iso-ne.com/static-assets/documents/2018/01/20180117_operational_fuel-security_analysis.pdf

Unfortunately, at the behest of activists the governments of New York and New Jersey have attempted to obstruct several pipeline projects that would have delivered additional gas to New England, such as Constitution, Northern Access and the Northeast Supply Enhancement pipelines. In order to preserve reliability in the absence of these pipelines, NE-ISO has requested for federal approval of revision to its electricity market structures that by one estimate will raise annual electricity bills for New Englanders by more than \$150 million per year. Further, dozens of municipalities in upstate New York and New England are precluding from being supplied gas by their utility due to supply constraints. Instead, these residents will have to use more expensive and less efficient space heating options.

Utilities in New Jersey have noted to their regulator, the Public Service Commission, a need for expanded natural gas infrastructure in order to meet their legal obligations to provide reliable and affordable power to customers. PSE&G, the state's biggest provider of gas and electricity, plainly stated in a recent rate filing it "currently does not have sufficient pipeline capacity to meet its requirements for 2022 and beyond. It is critical that PSE&G, like other New Jersey [gas distribution companies], be able to secure sufficient additional pipeline capacity to satisfy their statutory obligation to meet their firm gas customers' needs. Not doing so is simply not an option. [. . .] There are significant risks in assuming New Jersey can simply phase out the use of this plentiful, cost-effective resource, neglect real near-term and mid-term supply constraints, and neglect the extensive natural gas transmission and distribution infrastructure in place."

Another New Jersey gas utility, New Jersey Natural Gas, noted in its 2019 rate filing that "New Jersey's natural gas market is constrained, and positioned to become increasingly so in the absence of access to new interstate natural gas pipeline capacity. . . . additional interstate pipeline capacity is needed. . . . At the intersection of these two issues – the constrained market and potential curtailments of interstate natural gas pipeline capacity to New Jersey – there is a very real public safety issue."

Beyond fuel security risks, the lack of investment into pipelines and energy infrastructure will result in significantly reduced economic activity in our state. At a macro level, one analysis notes that if there are no more pipelines built into New England, Pennsylvania will lose the opportunity to have created nearly 22,000 new jobs and instead lose \$2.4 billion in state GDP. In total, the region will lose more than 78,000 jobs, \$4.4 billion in wages (much of it paid to skilled trades), and \$7.6 billion in GDP.¹² Another analysis notes that if we were to fully leverage our state's energy assets into expanded advanced manufacturing and power generation activity, Pennsylvania would see an additional \$60 billion in state GDP and more than 100,000 jobs to our state, with a ten-year increase in state tax revenues of between \$2 billion and \$3 billion due to enhanced economic activity and wage growth.

Expanded investment in natural gas infrastructure is necessary to meet climate goals, as noted by researchers at the Columbia University's Center for Global Energy Policy, "while it may seem counterintuitive, investing more in the domestic natural gas pipeline network could help the US reach net-zero emission goals more quickly and cheaply. Fortifying and upgrading the system could prepare the existing infrastructure to transport zero-carbon fuels as they become available [. . .] Studies by energy agencies, universities, and the industry that model future US natural gas consumption consistently show continued use of natural gas for at least the next 30 years, even in scenarios where the country achieves net-zero targets by midcentury."¹³

¹² What If Pipelines Aren't Built in the Northeast? US Chamber Global Energy Institute, July 2019.

https://www.globalenergyinstitute.org/sites/default/files/2019-07/20170405_1300_PipelineReport-update.pdf

¹³ Investing in the US Natural Gas Pipeline System to Support Net-Zero Targets. Columbia University Center for Global Energy Policy, April 2021. <https://www.energypolicy.columbia.edu/research/report/investing-us-natural-gas-pipeline-system-support-net-zero-targets>

Neighboring States Have Abused the Regulatory Regime to Disadvantage Our Economy

The aforementioned economic and environmental gains have demonstrably improved quality of life for many Pennsylvanians. However, there is more work to be done. Currently, states bordering Pennsylvania such as New York and New Jersey have attempted to use the state water quality certification process granted under Section 401 of the federal Clean Water Act to attempt to unilaterally derail federally approved infrastructure projects. If there is any need to reform siting processes dealing with natural gas infrastructure, it is to take steps to ensure that the sponsors of projects which are found by independent federal regulators to meet the long-established standards regarding public convenience and necessity are actually able to construct those projects. The attempted blockades of projects into these neighboring states have not only raised utility costs for communities in the receiving states¹⁴ but have resulted in moratoriums that frustrate local economic development, both in the states that are manipulating the Clean Water Act to block this needed infrastructure and beyond. Even worse, the lack of pipeline infrastructure into New England contributed to the import of Russian gas into a Boston LNG port last winter. Given the prolific supplies of natural gas being developed in northeastern Pennsylvania, just a few hours' drive from New England states, it is unconscionable that gas from overseas – where it was likely developed and transported without the rigorous environmental standards applicable here – would be where these states get their energy. The lack of gas infrastructure in the northeast has also led to a spike in wintertime emissions, due to the increased use of diesel-fired generators, which often run without the type of environmental controls used in large power generation facilities

With the aforementioned success in emissions reductions on the record, we must now note that several states involved in RGGI have taken actions through the federal Clean Air Act to request more onerous regulatory obligations on Pennsylvania businesses. These states, including New York, New Jersey, Connecticut, Delaware, and Maryland, have petitioned EPA to establish more stringent emissions rules on our member companies' manufacturing and energy infrastructure facilities, alleging that it is the fault of Pennsylvania businesses that these states cannot meet their federal air quality obligations under the National Ambient Air Quality Standards. These petitions have repeatedly, and properly, been rejected by the EPA, but we must note that the state must expend considerable time and resources in responding to these petitions.

New York, New Jersey, Connecticut, Delaware, and Maryland have petitioned EPA to establish more stringent emissions rules on our member companies' manufacturing and energy infrastructure facilities, alleging that it is the fault of Pennsylvania businesses that these states cannot meet their federal air quality obligations under the National Ambient Air Quality Standards. These types of petitions have repeatedly, and properly, been rejected by both the Obama and Trump administrations, but additional petitions are under review by the Biden administration, and related litigation is still pending. We must note given persistent discussions about the adequacy of DEP's budget and workforce that our state must expend considerable time and resources in responding to these petitions.

Commissioners representing New York, New Jersey and Delaware have voted on multiple occasions at the Delaware River Basin Commissions meetings to advance policies that inhibit the construction of gas pipelines and that prohibit the production of natural gas within the northeast corner of Pennsylvania. Pennsylvania joined these states recently in voting for a permanent ban on natural gas production in the basin, despite

¹⁴ Study Finds Energy Consumers Could Have Realized \$435 Million in Savings Last Winter from PennEast Pipeline. May 17, 2018. <https://penneastpipeline.com/study-finds-energy-consumers-could-have-realized-435-million-in-savings-last-winter-from-penn-east-pipeline/>

other interstate water commissions finding no long term water quality or quantity impacts from shale gas development.

Recent Energy Shortages and Price Spikes in Europe and Asia Underscore the Costs of Getting Energy Policy Wrong

It is important to take a step back and recall that while electricity may be delivered via regional grids, the energy markets are truly global in nature. The decisions Pennsylvania and its neighboring states make have global consequences. As noted prior in this testimony, attempts to reduce supply or transmission do not to a great extent impact demand for natural gas – instead, it will be met at the margins by importing LNG from countries that do not share the United States’ commitment to human rights or environmental standards.

This is the case at present in Europe.¹⁵ In order to meet climate policy goals, European nations have diminished investment into oil and gas production. Weather patterns have resulted in significant declines in output of wind and solar arrays. In order to meet energy demand, EU leaders are pleading with the Russian government to increase its deliveries of gas and oil. The European-based International Energy Agency, who earlier this year called for a halt to any new investment into oil and gas production in order to meet climate goals, has also called on Russia to increase output. The Russian government in turn declined these entreaties, as it is leveraging the crisis to relieve pressure against them constructing infrastructure that would increase European reliance on Russian gas. As one prominent geopolitical analyst has noted, “pipelines are the continuation of war by other means.”¹⁶

American exports of LNG are in increasing demand in Europe and Asia, but there are a limited number of licensed export facilities and infrastructure, again owing to a protracted federal permitting regime. In the meantime, gas stations in Britain have run dry, and energy-intensive manufacturers on the continent are shuttering, owing to the extreme increase in energy prices as well as massive spikes in renewable energy credits they are required to procure. These credit prices have spiked because production from wind assets have fallen precipitously.

¹⁵ The following headlines and quotes appropriately represent the gravity of the situation.

IEA calls on Russia to send more gas to Europe before winter: World’s energy watchdog intervenes after Russia decides not to increase exports despite record prices. The Guardian, Sept. 21, 2021.

<https://www.theguardian.com/business/2021/sep/21/iea-calls-on-russia-to-send-more-gas-to-europe-before-winter>

“A giant Dutch natural-gas field once pumped enough fuel to cover the current needs of Germany, Europe’s largest economy. Next year the field is shutting down over environmental concerns. Natural-gas supply shortfalls have led to record prices for the fuel and electricity, stoking fears of a shortage and spotlighting European efforts to cut greenhouse-gas emissions.” Wall Street Journal, Sept. 22, 2021. <https://www.wsj.com/articles/europe-is-pumping-less-gas-as-demand-revives-leaving-a-gap-russia-is-filling-11632308400>

“A sharp increase in energy prices has put power suppliers to consumers out of business and stoked problems for a range of industries from steel to brewing to fertilizers.” Wall Street Journal, Sept. 20, 2021 <https://www.wsj.com/articles/energy-price-surge-leads-u-k-government-to-consider-steps-to-soften-impact-11632158169>

“Getting to work, driving a taxi, making an ambulance run: Fuel shortages and long lines at gas stations have Britons scrambling to make trips they once took for granted.” New York Times, Sept. 27, 2021.

<https://www.nytimes.com/2021/09/27/world/europe/britain-gas-shortages.html>

“Ammonia is used to make nitrogen fertilizers, and prices are spiking as manufacturers grapple with dramatically higher costs for their main feedstock. That means added pressure on farmers, who may have to decide whether to pay up or cut fertilizer usage in spring, and could add to global food inflation.”

Europe’s fertilizer crisis spreads as another firm cuts output. Bloomberg, Sept. 23, 2021. <https://www.wsj.com/articles/energy-price-surge-leads-u-k-government-to-consider-steps-to-soften-impact-11632158169>

Soaring energy prices in Europe are forcing U.K. factories to shut down. Bloomberg, Sept. 16, 2021.

<https://financialpost.com/commodities/energy/oil-gas/europes-energy-crunch-is-forcing-u-k-factories-to-shut-down>

¹⁶ Bruno Macaes, *The Dawn of Eurasia* p. 94, 2018.

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This is a crisis directly attributable to misguided policy and underinvestment in energy production and infrastructure. It is a crisis Pennsylvania and our nation can ill afford to repeat.