

**Statement of Chad Zamarin**  
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**Before the Committee on Energy and Natural Resources**  
**United States Senate**  
**Hearing to examine federal regulatory authorities governing the development of interstate hydrogen pipelines, storage, import, and export facilities.**

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Chairman Manchin, Ranking Member Barrasso, and Members of the Committee, thank you for the opportunity to testify today on the development of hydrogen infrastructure, with an emphasis on the federal regulatory authorities governing the development of hydrogen pipelines, storage, import, and export facilities.

My name is Chad Zamarin and I am the chief strategy officer for The Williams Companies (Williams). I oversee Williams' enterprise-level strategy, business development and customer-relationship management, charting a course for Williams' continued success as a key partner in our nation's clean energy economy. Prior to joining Williams, I served as Senior Vice President and President, Pipeline and Midstream at Cheniere Energy, Inc. Before joining Cheniere Energy, I served in various executive roles at NiSource/Columbia Pipeline Group, including Chief Operating Officer at NiSource Midstream, LLC and NiSource Energy Ventures, LLC, as well as President of Pennant Midstream, LLC. I hold a bachelor's degree in materials engineering from Purdue University and a Master of Business Administration from the University of Houston. I currently serve on the Department of Transportation's Gas Pipeline Advisory Committee and the Board of Directors of the Interstate Natural Gas Association of America, of which I will assume the chairperson role in October 2022.

Demand for clean energy is on the rise, and natural gas is playing – and will continue to play – a foundational role in moving the world to a low-carbon future. At Williams, we believe that natural gas is critical to meeting both our nation's as well as the world's immediate needs for reliable and affordable energy, while also being a key fuel that will accelerate our transition to a more sustainable future. We believe that the next generation of the energy marketplace is rooted in a strategic energy mix – natural gas, next gen gas, hydrogen, solar, wind, and other emerging technologies that must meet growing energy demand without sacrificing reliability, affordability, or safety. We recognize and embrace the challenge of meeting this growing energy need while at the same time mitigating the risks of climate change, ensuring energy security, and stimulating the technological growth needed to build a viable clean energy economy.

Williams has taken important steps to meet growing energy demand and achieve industry-leading emissions reductions. We were the first North American midstream company to establish a climate commitment, which sets a near-term goal of a 56% reduction in greenhouse gas emissions by 2030 from 2005 levels. This is well in line with our nation's Nationally Determined Contribution target of a 52% emissions reduction by 2030. We also are collaborating with GTI on its Veritas initiative to measure and verify methane emissions reductions on natural gas systems in a consistent, credible, and transparent way. We are charting a path to net zero by 2050 that involves a combination of immediate and long-term solutions, including decarbonizing the natural gas value chain while investing in renewables, low carbon solutions, and emerging technologies. We are also committed to growing the diversity and capabilities of our talented workforce, a workforce made up of team members that are committed to doing what is right every day of the year.

As one of the largest and most experienced midstream companies in the United States, Williams serves as the link between upstream energy producers and downstream users. We own and operate more than 30,000 miles of pipelines system wide – including Transco, the nation’s largest by volume and fastest growing pipeline. We handle approximately 30 percent of the natural gas in the United States that is used every day for clean-power generation, residential, and industrial use. Williams serves major markets from the Gulf Coast to the Atlantic Seaboard, the Northeast (including Washington, DC, and New York City) as well as the population centers in the Pacific Northwest such as Seattle and Portland. The natural gas that we gather and deliver has helped increase the energy security of our nation, while lowering utility bills and cutting emissions by displacing dirtier fuels along our footprint. And while we are focused on further decreasing the emissions intensity of the natural gas value chain, we are also placing an increased focus on unlocking the vast potential of additional low carbon fuels, including clean hydrogen.

Our nationwide footprint is well-positioned to enable hydrogen-based energy transportation and storage at scale. The potential to blend hydrogen into our existing natural gas stream is a significant advantage to accelerate the use of hydrogen in reducing carbon emissions across many sectors and applications, particularly those most difficult to decarbonize.

We appreciate you holding this hearing and appreciate the Committee’s interest in providing regulatory certainty and fostering a regulatory environment that encourages infrastructure investment and clean energy deployment.

### **Regulatory Reforms Needed for the Permitting of Energy Infrastructure**

Williams’ existing and planned clean energy portfolio includes interstate natural gas pipelines, renewable natural gas, certified low emissions next gen gas, hydrogen production and transport, on-site and utility-scale solar installations, and carbon capture and sequestration. We are squarely focused on increasing energy security while decreasing global emissions; however, the permitting process for these technologies is encumbered by a regime that has been broken by politically motivated, often NIMBY-like challenges that defy the congressional intent of the initial, underlying legislation. Statutes that are designed to encourage the building of critical energy infrastructure are being used to prevent that very infrastructure, even when a project will significantly benefit the environment through displacement of dirtier fuels. The renewables industry is facing the same hurdles and the same issues; statutes designed to encourage infrastructure are being abused for the opposite purpose.

The solution is neither difficult, nor overly complicated. We need to reform the current federal regulatory regime as applied to critical energy infrastructure projects. Doing so will help us meet the country’s energy needs while reducing emissions and helping us achieve our climate goals. The following, relatively simple, changes will accomplish this goal:

1. Establish a single lead agency with authority to coordinate and issue all necessary approvals for critical energy infrastructure projects. The Federal Energy Regulatory Commission (FERC) should be the lead agency for natural gas infrastructure.
2. All federal and state agencies that are not the lead agency will provide input and make recommendations, including with respect to mitigation, but they will not issue permits. That job will rest exclusively with the lead agency. In addition, firm deadlines should be established, before which all non-lead agencies must submit their recommendations and input. The failure to meet these deadlines should be deemed a recommendation to approve a project.
3. Establish a firm timeline for a yes or no decision from the lead agency, and if the timeline is not met, then the requested permit is deemed granted.

4. Make a clear legislative finding that critical infrastructure projects are in the public interest and in the national interest and are deemed to meet any applicable standard of need. This finding should bind all agencies.
5. And finally, revise the appellate standard of judicial review to ensure infrastructure certifications and permits are approved unless the record lacks credible evidence in support of a permit.

### **FERC as Hydrogen Pipeline Regulator**

Large scale hydrogen transportation infrastructure is in its initial stages of development. There are just over 1,600 miles of dedicated hydrogen pipelines in the United States, with the majority in the Gulf Coast, Texas, and California. This compares to over 2.3 million miles of natural gas pipelines in the country. The extensive network of natural gas pipelines in the United States represents an irreplaceable infrastructure solution that provides energy security and reliability for our nation – and this network can be leveraged not just for providing the benefits of natural gas, but also for emerging low carbon solutions like hydrogen. Our nation’s natural gas infrastructure presents the potential to blend hydrogen into the natural gas stream and transport it to existing end users. Williams has near-term plans to blend hydrogen into existing natural gas pipelines, further improving the emissions footprint of heating, cooling, cooking, and power generation. Leveraging our nation’s existing infrastructure is how we can most efficiently and rapidly bring emerging solutions like hydrogen to meaningful scale.

No legislative action is needed to facilitate this plan, as the Natural Gas Act already gives FERC jurisdiction over interstate natural gas pipelines carrying hydrogen blended into natural gas. FERC Chairman Glick confirmed this in a letter to Senator Heinrich in October 2021. FERC is capable of regulating hydrogen blends under the authority already provided to it in the Natural Gas Act. However, as detailed above, regulatory reforms are needed to increase the effectiveness of FERC as the Lead Agency for regulating critical energy infrastructure.

As the hydrogen economy continues to advance and purity hydrogen pipelines become necessary to serve end-user demand, more interstate hydrogen pipeline infrastructure will be needed. Currently, no statute expressly provides for federal regulation of interstate hydrogen pipelines’ construction, siting, rates, or services. However, three existing statutes *could* be construed to confer such jurisdiction:

- (1) the Natural Gas Act, which requires FERC to regulate the interstate transportation of natural gas, and “artificial gas” that is blended in with natural gas;
- (2) the Interstate Commerce Act, which requires FERC to regulate the interstate transportation of oil; or
- (3) the Interstate Commerce Clause Termination Act, which requires the Surface Transportation Board (“STB”) to regulate the interstate transportation of “a commodity other than water, gas, or oil.”

Overall, the Natural Gas Act covers energy-related gases, the Interstate Commerce Act covers energy-related liquids, and the Interstate Commerce Commission Termination Act covers non-energy commodities. If any statute could be construed to regulate the interstate pipeline transportation of pure hydrogen, it is the Natural Gas Act, either because hydrogen could be defined as (i) a “natural gas;” or as (ii) an “artificial gas,” both of which are subject to FERC regulation. To the extent the federal government intends to regulate such activity, new legislation is likely needed. We further

advise against making jurisdictional determinations without simultaneously addressing the shortcomings of the current FERC permitting process.

With the recent clarity on FERC's jurisdiction to regulate blended hydrogen pipelines, we can allow the hydrogen market to develop and continue conversations that engage all stakeholders and afford a better understanding of the regulatory and commercial needs of the hydrogen economy. The conversation surrounding FERC as regulator is an important one, and Williams agrees that a measured, thoughtful and "first do no harm" approach is necessary to ensure that hydrogen development has clear and effective rules of the road, but that the rules do not cause a traffic jam during the first mile of our long journey.

### **Williams' Hydrogen Projects**

Williams lauds the passage of the November 2021 bipartisan Infrastructure Investment and Jobs Act (IIJA). Particularly, adding Section 813 to the Energy Policy Act of 2005 will help support and accelerate the development of clean hydrogen hubs. Williams is among a small number of energy infrastructure companies that can leverage its existing resources to develop the value proposition of providing hydrogen storage and transport at scale in a manner that supports renewable power production as well as complements existing natural gas production. Williams is actively pursuing multiple Department of Energy clean hydrogen hubs across the Northeast and Appalachia, the Mid-Atlantic and Southeast, the Gulf Coast and Midwest, and the Pacific Northwest/Rocky Mountain regions.

Many if not all regional efforts and development of a national hydrogen economy involve a strong alliance between private and public organizations. Williams is actively working with testing laboratories, industry associations, state governments, universities, utilities, customers and even selected international peer companies to take on the challenging technical issues hydrogen poses for development at scale and for continuing to promote the use of hydrogen as a major part of efforts to achieve significant decarbonization.

A notable example of this concept is a Williams Wyoming Clean Energy Hub to integrate renewable power, hydrogen, captured carbon dioxide and methanation into our existing natural gas assets that originate in Wyoming. We have a history of operating energy infrastructure in Wyoming and a large and talented workforce to support it. In 2021, the Wyoming Energy Authority awarded Williams a \$1 million grant in partnership with the University of Wyoming School of Energy Resources to complete a study on the potential development of a hydrogen hub in the Wamsutter and Opal areas in the southwestern part of Wyoming where Williams has a large concentration of assets. Based on the outcome of the study, Williams independent development efforts, the availability of potential renewable power and accessible water, the future of hydrogen development in Wyoming could be significant.

In support of the hydrogen work we are collaborating on with the University of Wyoming and the Wyoming Energy Authority, we are pursuing a coalition between Wyoming, Utah, Colorado, and New Mexico called the Western Interstate Hydrogen Hub that is focused on exporting green and blue hydrogen to surrounding states, notably to the population centers of the Pacific Northwest.

A large-scale hydrogen production and transportation hub in Wyoming would support the state's and region's energy transition efforts. The hub would use large-scale local renewable energy to provide power for electrolysis to produce clean hydrogen gas, which would then be blended into our natural gas pipelines and used within the state, as well as exported to the Pacific Northwest or other regions via our Northwest Pipeline, a nearly 4,000-mile bi-directional gas transmission system. This

critical transmission pipeline network serves major markets in the western United States including large metropolitan areas such as Portland and Seattle. When combined with the potential for large-scale renewable power production, Wyoming and the Pacific Northwest is a compelling fit for the growth of the hydrogen economy.

In addition to our large-scale hub efforts in Wyoming, Williams is also evaluating and developing hydrogen pilot projects along our entire infrastructure footprint. One such example is a pilot project in New Jersey that, when finalized, will use renewable power coupled with clean hydrogen from electrolysis to deliver a blend of hydrogen and natural gas to customers in the state. This project will provide an excellent initial opportunity to demonstrate the capability of using established transmission infrastructure to support the development of the regional hydrogen economy in support of New Jersey's decarbonization efforts. We continue to work with excellent partners in the state of New Jersey to develop the delivery of renewable power-driven hydrogen and the overall commercialization of the project.

We are working with customers in West Virginia, Ohio, and Pennsylvania to couple natural gas production with clean hydrogen production. This Appalachian geography and its proud legacy as an energy bedrock of America is ideally suited to support the population centers of the northeast with natural gas and natural gas blended with hydrogen to provide a decarbonized energy source for heating, cooking, and electricity generation.

Across North Carolina, South Carolina, Virginia, and Georgia, we are partnering with utility customers to explore the production of green hydrogen with excess renewable power and blend it into the natural gas stream used for power generation and to serve residential and commercial customers. These efforts directly support a long-term goal of delivering 100% clean hydrogen for power generation in the region.

Closer to home, we have partnered across Oklahoma, Louisiana, and Arkansas to explore the production of hydrogen for interstate trucking as well as leveraging surplus wind power to generate green hydrogen to be transported by pipeline into the Gulf region to serve industrial customers. We also have ambitions to develop a large-scale, complementary carbon capture utilization and sequestration (CCUS) project in Louisiana.

Finally, Williams is proud of our partnerships with state agencies, the federal government and universities that are developing research, technology and most importantly the workforce of tomorrow that will bring the skills necessary to deliver the energy marketplace of the future. Williams is supporting the advancement of hydrogen research at the University of Wyoming and will support multiple hydrogen and carbon capture related projects with the University of Oklahoma, and we continue to evaluate additional opportunities to partner with universities developing clean energy solutions.

### **Scaling Up a Hydrogen Economy**

We understand that energy needs are local and distinct, and that many clean energy projects require government incentives in early developmental and operational stages to reach commercialization. Economics will drive change at scale and equitable adoption. Incentives for hydrogen production and programs such as carbon pricing, carbon credits and development of a nascent hydrogen credit market likely will be required for zero emissions hydrogen to compete with fossil fuels and hydrogen produced with emissions. In addition, increased scale and reduced cost for production equipment such as electrolyzers are also required for commercial readiness.

Further, the proposed clean hydrogen production tax credits pave the most well-defined path to a domestic clean hydrogen economy by providing qualifying projects the right tax incentives that would offset initial capital outlays that are not currently supported by market premiums. We believe these premiums will develop as demand shifts for clean hydrogen products, but the timescale of such projects is such that there must be incentive now to promote the development of these markets for future expansions. In addition to the need for clean hydrogen production tax credits being implemented, an enhanced version of 45Q will be even more integral for clean hydrogen and for companies to reach their emissions goals. There are many energy systems and industrial plants that Americans rely upon to enjoy our standard of living that have no “green” energy alternative; therefore, an expanded CCUS infrastructure network is a necessity to reduce emissions and preserve these important resources. These improvements, suggested from previously proposed legislation, will allow further project development of the clean energy infrastructure that will help decarbonize the United States’ existing and future infrastructure and industries.

It is also important to focus on the potential for hydrogen production to contribute to emission reductions regardless of the source. This will allow for different regions of the country to leverage their respective local energy resources and economies to enable a hydrogen ecosystem at scale, as well as transition and grow the jobs that will come with it. To support this approach, any policy design should stimulate the production and use of clean hydrogen with a fully transparent lifecycle greenhouse gas accounting system applied consistently across the value chain. Policy should be fully transparent but focused not on the color of hydrogen but on the potential to achieve lower emissions. There is no more powerful means of quickly lowering emissions than by leveraging our existing natural gas production and critical natural gas infrastructure, both as a standalone decarbonizing tool and as a vehicle for producing and delivering hydrogen.

## **Conclusion**

Our country is currently facing an unprecedented challenge: meeting growing energy demand while simultaneously addressing the risks of climate change with practical solutions we can execute today. Americans want safe, reliable, and affordable clean energy. As one of the largest energy infrastructure companies in the United States, we see firsthand the critical role natural gas plays today in a viable and sustainable low-carbon future by displacing carbon-heavy fossil fuels. We also see the enormous potential that our nation’s natural gas infrastructure holds to deliver zero carbon hydrogen at scale.

We also know that partnering hydrogen and renewables with natural gas offers a pragmatic path toward achieving emissions reduction goals. For renewable and emerging technologies to reach their full potential, we must efficiently manage supply through the peaks and valleys of demand. Our nationwide natural gas infrastructure is adaptable to future fuels like hydrogen, and we are committed to investing in these areas for the benefit of our nation’s energy needs and for the environment.

Thank you for your leadership in holding this hearing today. We appreciate the Committee’s focus on regulatory and permitting reform to best develop much-needed energy infrastructure, including hydrogen pipelines, storage, import, and export facilities. I would be glad to answer any questions today and to provide any additional information for the record at your request.