American Gas Association

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Internal Revenue Service
U.S. Department of Treasury
Room 5203
P.O. Box 7604
Ben Franklin Station
Washington, DC 20044

RE: Section 45V Credit for Production of Clean Hydrogen; Section 48(a)(15) Election To Treat Clean Hydrogen Production Facilities as Energy Property, REG–117631–23, 88 Fed. Reg. 89220 (Dec. 26, 2023) Comments of the American Gas Association

U.S. Department of Treasury and Internal Revenue Service:

The American Gas Association ("AGA") appreciates the opportunity to comment on the Department of Treasury ("Treasury") and Internal Revenue Service's ("IRS")[1] notice of proposed rulemaking concerning proposed regulations relating to the credit for production of clean hydrogen (clean hydrogen production credit) and the energy credit, as established and amended by the Inflation Reduction Act of 2022, respectively ("Proposed Rule").[2] As discussed in more detail below, AGA supports certain elements of the Proposed Rule and requests clarification and revisions that would improve the proposal.[3]

I. Identity and Interest

AGA, founded in 1918, represents more than 200 local energy companies that deliver clean natural gas throughout the United States. There are more than 78 million residential, commercial and industrial natural gas customers in the U.S., of which 95 percent — more than 74 million customers — receive their gas from AGA members. AGA is an advocate for natural gas utility companies and their customers and provides a broad range of programs and services for member natural gas pipelines, marketers, gatherers, international natural gas companies, and

[1] For ease of reference Treasury and the IRS will be referred to herein, collectively, as "Treasury."
[2] *Section 45V Credit for Production of Clean Hydrogen; Section 48(a)(15) Election To Treat Clean Hydrogen Production Facilities as Energy Property*, REG–117631–23, 88 Fed. Reg. 89220 (Dec. 26, 2023).
[3] AGA reserves the right to file supplemental comments addressing matters raised in the Proposed Rule, as well as the scheduled public hearing.

industry associates. Today, natural gas meets more than one-third of the United States' energy needs.

AGA is committed to reducing greenhouse gas emissions ("GHG") through smart innovation, new and modernized infrastructure, and advanced technologies that maintain reliable, resilient, and affordable energy service choices for consumers. As part of this effort, gas utilities recognize the integral role that hydrogen can play in reducing the carbon footprint of their operations and their customers.[4] Many AGA members have already begun demonstrating their commitment to integrating hydrogen into their existing gas networks. For example, AGA members have:

- Initiated hydrogen production and blending pilot programs,[5]
- Researched hydrogen blending,[6] and
- Researched the impact of hydrogen on end-use appliances.[7]

Technological innovation in hydrogen is progressing at a rapid pace and leading to expanded market interest worldwide. Efforts to include hydrogen as an element of decarbonization strategies are already underway throughout Europe and in parts of Asia.[8] The United States, with its plentiful natural gas reserves and growing deployments of renewable electricity, is well positioned to become a major supplier of low to zero-carbon hydrogen.[9] AGA supports strategic focus and funding initiatives to better align with the technology and research needs of this growing domestic and global market, which includes production, delivery, and end-use.

AGA strongly supports expanding access to renewable gases, such as hydrogen and renewable natural gas ("RNG") in an effort to accelerate widespread accessibility and adoption of renewable and low-carbon energy sources. Several AGA members have already begun

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[4] *See* "Utility executives plot renewable hydrogen's future in US decarbonization," S&P Global, August 25, 2020, available at https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/utility-executives-plot-renewable-hydrogen-s-future-in-us-decarbonization-60070401.

[5] New Jersey Natural Gas, Green Hydrogen Project, available at https://www.njrsustainability.com/environmental/NJR_HydrogenProject_Factsheet_01d1.pdf; Hawai'i Gas, Hydrogen, available at https://www.hawaiigas.com/sustainability/hydrogen; Southern California Gas, Hydrogen, available at https://www.socalgas.com/sustainability/hydrogen.

[6] *See*, PG&E Gas R&D and Innovation Whitepaper Pipeline Hydrogen, available at https://www.pge.com/pge_global/common/pdfs/for-our-business-partners/interconnection-renewables/interconnections-renewables/Whitepaper_PipelineHydrogen.pdf; Southern California Gas 2019 Annual Report Research, Development and Demonstration Program, available at https://www.socalgas.com/sites/default/files/2020-04/2019%20SoCalGas%20RDD%20Annual%20Report.pdf.

[7] *Id.*

[8] *See, e.g.*, "South Korea pushes energy transition dream with liquid hydrogen plant plan" S&P Global, May 5, 2020, available at https://www.spglobal.com/platts/en/market-insights/latest-news/electric-power/050520-south-korea-pushes-energy-transition-dream-with-liquid-hydrogen-plant-plan; France's Hydrogen Plan: "making our country a world leader in this technology, " available at https://www.gouvernement.fr/en/hydrogen-plan-making-our-country-a-world-leader-in-this-technology-0.

[9] *See* Hydrogen Strategy Enabling a Low-Carbon Economy, Office of Fossil Energy U.S. Department of Energy (July 2020), at pp. 4 and 15, available at https://www.energy.gov/sites/prod/files/2020/07/f76/USDOE_FE_Hydrogen_Strategy_July2020.pdf. *See also*, https://afdc.energy.gov/fuels/hydrogen_benefits.html.

demonstrating their commitment to integrating renewable gases into their existing pipeline networks. To date, at least 18 AGA member companies in the United States have established or are in the process of developing voluntary renewable gas program offerings for customers, also referred to as "green tariffs" for retail service. The development of these program offerings is a direct reflection of growing customer demand for renewable energy sources and gas utilities' continued commitment to reducing emissions. AGA and its members are affected by the Proposed Rule due to its potential impact on the development of hydrogen resources and the overall hydrogen market.

II. Comments

On December 26, 2023, Treasury issued the Proposed Rule to amend its regulations and implement elements of the Inflation Reduction Act of 2022 ("IRA").[10] Specifically, the issuance includes proposed regulations regarding the clean hydrogen production tax credit under section 45V of the Internal Revenue Code ("45V Credit"). The 45V Credit, enacted by the IRA, is part of an energy initiative and is the primary tax incentive for the production of clean hydrogen. The level of the 45V Credit varies depending upon the amount of GHG emissions released during the hydrogen production process. Section 45V of the Internal Revenue Code does not include specific details on the methodology that Treasury should apply to determine the GHG emissions of production processes. Hence, the Proposed Rule includes the suggested specifics related to the 45V Credit.

A. Hydrogen Production Will Help Reduce Economy-Wide Emissions

AGA believes that hydrogen production, transportation, storage, and end-use can support pathways to low-carbon energy systems and help reduce economy-wide emissions. Further, AGA believes that investment in the hydrogen value chain can be a strategy for economic development and job creation while continuing to support the end uses critical to providing energy to meet customer needs.

In 2022, AGA released a study entitled Net-Zero Emissions Opportunities for Gas Utilities[11] that explores the critical role that hydrogen has to play in leveraging the unique advantages of the gas distribution system towards building a net-zero future. Furthermore, the funding provided by the IRA will only accelerate the many hydrogen and RNG projects already underway by gas utilities, the industrial sector, power generators, and consumers.[12] The IRA serves as a down payment on what will be needed to incentivize the adoption of hydrogen economy wide and now is the time to capitalize on this opportunity to ensure that the future of clean energy is made in America.

B. Natural Gas Utilities and Existing Networks Can be a Catalyst to Scale Production and Demand of Hydrogen

[10] Public Law 117-169, 136 Stat. 1818 (August 16, 2022).
[11] AGA, Net-Zero Emissions Opportunities for Gas Utilities, available at https://www.aga.org/wp-content/uploads/2022/02/aga-net-zero-emissions-opportunities-for-gas-utilities.pdf (last visited February 26, 2024).
[12] AGA, Winning the Global Race for Hydrogen, available at https://www.aga.org/winning-the-global-race-for-hydrogen/ (last visited February 26, 2024).

Natural gas utilities, through their existing networks and expertise in managing infrastructure requirements, can be a catalyst to scale production and demand of hydrogen. The industry is actively engaged in growing the hydrogen market to facilitate renewable energy development and lower-carbon energy systems and to expand the potential of hydrogen to reduce emissions from end-use applications.

Importantly, the existing natural gas pipeline infrastructure can be used to deliver hydrogen to consumers, *i.e.*, transporting hydrogen from points of production to points of consumption through pipeline infrastructure. Natural gas and future pipeline infrastructure can be consistent with reducing GHG emissions and a decarbonized energy future.

The scale and importance of natural gas infrastructure in meeting the needs of the U.S. energy economy create a significant role for this infrastructure in the future. The gas system's ability to integrate diverse sources of energy, such as hydrogen and RNG, will be a critical component of our nation's ability to reach ambitious GHG reduction goals. This point is underscored by the Center on Global Energy Policy at Columbia University SIPA report, "Investing in the US Natural Gas Pipeline System to Support Net-Zero Targets," which states that "[w]hile 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," and recommends that "the natural gas grid should be viewed as a way to enable increasingly low-carbon molecules to be transported."[13] Moreover, the impact of the natural gas system on the power sector cannot be understated. The U.S. Energy Information Administration ("EIA") has stated that during the past 15 years, the U.S. electricity generation mix has shifted away from coal and toward natural gas and renewables, resulting in lower CO2 emissions from electricity generation.[14] EIA concluded that in 2019, the U.S. electric power sector produced CO2 were 32% less than in 2005, and that this was largely a result of a shift from coal to natural gas in the electricity generation mix.[15]

While much attention has been directed to hydrogen production technologies and hydrogen applications, less focus has been directed toward the safe, cost-efficient, and more universal distribution of hydrogen for end-use consumption and power generation. Moreover, natural gas itself is also a critical enabling component to accelerating widespread hydrogen use throughout the country because it can be used as a hydrogen carrier, *i.e.*, blended with hydrogen and delivered to customers via the existing distribution network. While research is underway to consider other chemical compounds as hydrogen carriers in the future, natural gas and natural gas infrastructure is available today, making it an optimal pathway for hastening hydrogen usage.

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[13] "Investing in the US Natural Gas Pipeline System to Support Net-Zero Targets," Center on Global Energy Policy at Columbia University SIPA, April 2021, at 6, available at https://www.energypolicy.columbia.edu/research/report/investing-us-natural-gas-pipeline-system-support-net-zero-targets (last visited February 26, 2024).

[14] "Electric power sector CO2 emissions drop as generation mix shifts from coal to natural gas.," U.S. Energy Information Administration, June 9, 2021, available at https://www.eia.gov/todayinenergy/detail.php?id=48296 (last visited February 26, 2024).

[15] *Id.*

The country's gas network transports and distributes natural gas from production areas and storage facilities to retail, commercial, and industrial customers across the country. Therefore, using the existing natural gas infrastructure to reach as many customers as possible would truly allow widespread hydrogen usage, further leveraging economies of scale to maximize the efficiency of hydrogen delivery and drive down costs for all customers.

C. Treasury Should Address the Use of RNG for Hydrogen Production

The Proposed Rule does not propose regulation directly related to RNG or other fugitive sources of methane used to produce hydrogen. Instead, Treasury asks a variety of questions on the topic, which provides limited guidance on hydrogen production pathways using RNG or other fugitive sources of methane for the 45V Credit. The insights in the Proposed Rule appear to indicate a very restrictive approach for qualifying RNG production pathways.[16] The limited guidance is coupled with the statement that Treasury will address RNG matters in further rulemakings that may apply to various forms of RNG and provide conditions related to RNG or fugitive methane certificates, and the treatment of lifecycle GHG emissions for 45V Credit purposes.

First, AGA requests that Treasury address matters related to the 45V Credit and RNG and fugitive methane as quickly as possible. Delay in the process hinders and may put projects on the sidelines while developers take a wait and see approach due to the potential of pending regulations. Treasury should not delay in issuing further guidance and to the extent possible should do so in this proceeding.

Second, to the extent RNG matters are addressed in the Proposed Rule, Treasury overly restricts and limits the RNG feedstocks that can be used to qualify for the 45V Credit, which may stymie a nascent industry in conflict with Congressional intent. For background purposes, AGA defines "renewable natural gas" or RNG as "pipeline compatible gaseous fuel derived from biogenic or other renewable sources that has lower lifecycle carbon dioxide equivalent (CO2-eq) emissions than geological natural gas."[17] This definition was developed by the natural gas utility sector,[18] with the explicit intent to be inclusive of all current and potential renewable natural gas feedstocks and production technologies.[19]

The above definition broadly encompasses gaseous fuel derived from biomass or other renewable sources that is interchangeable with geologic or other traditionally sourced natural gas. The definition is forward looking and recognizes the significant prospects for growth in the renewable natural gas market, particularly within the commercial, residential, and industrial

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[16] *See* Proposed Rule at 89238-89240.

[17] American Gas Foundation, *Renewable Sources of Natural Gas: Supply and Emissions Reduction Assessment* (Dec. 2019), at p. 1, available at https://gasfoundation.org/wp-content/uploads/2019/12/AGF-2019-RNG-Study-Full-Report-FINAL-12-18-19.pdf (last visited February 26, 2024).

[18] The definition proposed was developed by AGA and its members, and other stakeholders as a broad consensus definition. Individual companies may recognize additional specifications or requirements pertaining to gas quality standards on their operating systems.

[19] The definition for "renewable natural gas" is separate and distinct from the definition for "biogas." The terms are not interchangeable. Biogas is the raw gas that has not been conditioned and is not pipeline quality. In comparison, and as discussed herein, the term "renewable natural gas" refers to pipeline compatible gas.

sectors of the economy. Treasury should not limit the production method(s) that could qualify for the 45V Credit, and Treasury should recognize the multitude of feedstocks and production technologies that could be used today, and in the future, to produce renewable natural gas.

Today, RNG can be produced from different feedstocks and production technologies. The feedstocks include landfill gas, animal manure, water resource recovery facilities, food waste, agricultural residues, forestry and forest product residues, energy crops, the use of renewable electricity, and the non-biogenic fraction of municipal solid waste.[20] Such feedstocks can be processed using various technologies to produce renewable natural gas, including anaerobic digesters, thermal gasification systems, and power-to-gas in combination with a methanation system.[21] Incorporating a more inclusive scope of RNG will provide flexibility for including technologies in use today, as well as those developed in the future.

In the Proposed Rule, Treasury adopts the 45VH2-GREET model to determine emissions rates for purposes of the 45V Credit; however, the model does not include specific accounting for all feedstocks that could generate RNG for the production of hydrogen. The Proposed Rule generally permits reliance on 45VH2-GREET model or provisional emissions rate ("PER") process to determine the associated lifecycle GHG emissions rate for the direct use of landfill gas or any fugitive methane feedstock, in the absence of the forthcoming regulations for production from all facilities.

AGA requests that to improve regulatory certainty and efficiency that Treasury should revise the 45VH2-GREET model or request Argonne National Laboratory to take RNG production methods in addition to landfill gas RNG into consideration in an update of the GREET model. The 45V Credit should support advancements in technologies and further GHG emissions reductions and not be restrictive in what pathways qualify. For example, steam methane reforming is a recognized hydrogen production technology in the 45VH2-GREET model. However, there is another main pathway that uses methane (be it fossil based, synthetic or renewable) which is methane pyrolysis. Methane pyrolysis produces both hydrogen and solid carbon that could have market value (depending on the quality). Methane pyrolysis should be added to the 45VH2-GREET model, and it should be updated so that multiple pathways are included as a way to incentivize greater GHG emissions reductions related to the 45V Credit.

Additionally, the Proposed Rule outlines criteria for producing hydrogen from biogas, including landfill gas, under specific conditions.[22] The issuance stipulates that Treasury will explore whether the "three pillars" approach, *i.e.*, (1) incrementality, (2) temporal matching, and (3) deliverability, could be applicable to RNG in a manner that is consistent with, but not identical to, those for electrolytic pathways. Differences to address would include differences in sources of emissions, markets, tracking/verification methods, potential for perverse incentives, *etc.* Treasury is also seeking comments on the concept of "first productive use" for RNG. Specifically, Treasury has proposed to limit the full value of GHG reductions from biogas, utilizing the proposed "first productive use" framework, which appears to restrict existing biogas

[20] American Gas Foundation, *Renewable Sources of Natural Gas: Supply and Emissions Reduction Assessment* (Dec. 2019) at p. 1, *supra*.
[21] *Id.*
[22] *See* Proposed Rule at 89239-89241.

facilities from becoming feedstocks for hydrogen production, or forgo the facility's carbon intensity value, instead being forced to use that of fossil natural gas.[23]

The first productive use requirement in the Proposed Rule is a disincentive for RNG projects for hydrogen since it restricts available feedstock that can produce clean hydrogen. Treasury anticipates requiring that for purposes of the 45V Credit, biogas or biogas-based RNG receive a low emissions value consistent with such gas. Additionally, RNG is expected to be used during the hydrogen production process must originate from the first productive use of the relevant methane. In other words, the first productive use is when a producer of biogas/RNG first begins using or selling it for productive use in the same taxable year as (or after) the relevant hydrogen production facility was placed in service. Biogas/RNG used for a different purpose in a previous taxable year "would not receive an emission value consistent with biogas-based RNG but would instead receive a value consistent with natural gas in the determination of the emissions value for that specific hydrogen production pathway."[24] Such proposed limitations would render readily available feedstocks that could be used to produce clean hydrogen from being eligible for the 45V Credit. An expansion of the hydrogen system will require flexibility in the types of feedstocks used. RNG is a readily available and transportable commodity that is already being utilized in various sectors of the economy. The first productive use requirement proposed by Treasury for RNG places unnecessary restrictions on the ability to ensure available feedstock to produce clean hydrogen, which is counter to the purposes of IRA Section 45V, which is to reduce emissions and incentivize the production and use of clean hydrogen. Treasury should consider the potential adverse implications for RNG and hydrogen investments of its first productive use requirement, and if the proposal is not changed, provide further explanation and support for such a requirement.

D. AGA Supports the Use of Book and Claim, but Revisions are Required

AGA supports the use of book and claim of environmental attributes for the use of RNG to offset the carbon intensity of hydrogen production under the Section 45V Tax Credit. Under the proposal, for purposes of the section 45V Credit, hydrogen producers using RNG or fugitive methane would be required to acquire and retire corresponding attribute certificates through a book and claim system that can verify in an electronic tracking system that all applicable requirements are met.[25]

Furthermore, according to Treasury these rules would apply to the use of certificates with both direct and non-direct claims of RNG or fugitive methane use.[26] The Proposed Rule states that direct use would involve the production of hydrogen with a direct exclusive pipeline connection to a facility that generates RNG or from which fugitive methane is being sourced, while nondirect use would involve producing hydrogen using RNG or fugitive methane sourced from a commercial or common-carrier natural gas pipeline.[27]

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[23] Proposed Rule at 89239-89240.
[24] Proposed Rule at 89239.
[25] *Id.*
[26] *Id.*
[27] *Id.* The phrase "commercial or common-carrier pipeline" is also used on later in the Proposed Rule. Proposed Rule at 89240 ("Additional certainty is also needed to accurately account for emissions from pathways that do not yet exist in 45VH2–GREET and from RNG that is injected into a commercial or common-carrier pipeline.").

While AGA supports the book and claim system, Treasury should revise its terminology and not use the undefined term "commercial or common-carrier natural gas pipeline." First, it is not accurate to refer to natural gas pipelines a "common carrier." Interstate natural gas pipelines are regulated by the Federal Energy Regulatory Commission ("FERC") pursuant to the Natural Gas Act on a contract carrier basis. FERC does regulate common carrier pipelines under the Interstate Commerce Act;[28] however, that act only applies to liquids pipelines not natural gas or other gaseous pipelines. Therefore, at a federal level the term "common carrier natural gas pipeline" has no meaning and is a legal impossibility.

Second, at the state level, the term "common carrier" is defined by state law or regulation and while there may be some definitional differences, as a general matter, natural gas utilities are not "common carriers." For example, Illinois state law includes a definition of a "common carrier by pipeline;" and it expressly states that "[a] gas public utility that provides local distribution services is not a common carrier by pipeline …"[29] The definition also excludes from the definition common carrier by pipeline municipality owned. Similar laws exist in various other jurisdictions that exclude natural gas distribution systems from the definition of "common carrier."[30] Therefore, if Treasury were to use the term common carrier as proposed in the rule, then it could exclude natural gas utilities and municipal systems.

Third, Treasury should also avoid the blanket term "commercial" in this context. While not defined by Treasury, use of the term "commercial" could be viewed as excluding municipal gas systems since such facilities are owned by political subdivisions or governmental entities and as such may not be seen as a commercial endeavor. Treasury should not inadvertently cause complications to the book and claim process by using a term that is excisional.

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[28] 49 U.S.C. app. 1 *et seq*.

[29] 220 ILCS 5/15-201 (""Common carrier by pipeline" means (1) a person or corporation that owns, controls, operates, or manages, within this State, directly or indirectly, equipment, facilities, or other property, or a franchise, permit, license, or right, used or to be used in connection with the conveyance of gas or any liquid other than water for the general public in common carriage by pipeline, or (2) a person or corporation that owns and operates within this State any equipment, facilities, or other property, or any franchise, permit, license, or right, used or to be used in connection with the conveyance of water drawn from Lake Michigan for the general public in common carriage by pipeline. A gas public utility that provides local distribution services is not a common carrier by pipeline, irrespective of whether the public utility transports customer-owned gas or gas owned by a third party to some of its customers. A water public utility that provides local distribution services is not a common carrier by pipeline. A unit of local government is not a common carrier by pipeline. In addition, "common carrier by pipeline" does not include common carriers by pipeline that are owned and operated by any political subdivision, public institution of higher education or municipal corporation of this State, or common carriers by pipeline that are owned by such political subdivision, public institution of higher education, or municipal corporation and operated by any of its lessees or operating agents.").

[30] *See e.g.,* Washington Rev. Code Wash. (ARCW) § 81.88.030 ("Every person, copartnership, corporation or other association now or hereafter engaged in the business of producing from natural deposits and/or carrying or transporting natural gas and/or crude oil or petroleum or the products thereof for hire, by pipelines within this state shall be a common carrier within the meaning and subject to the provisions of this title: PROVIDED, HOWEVER, That the provisions of this section shall not apply to distribution systems owned and operated under franchise for the sale, delivery, or distribution of natural gas at retail.").

AGA proposes to avoid the issues noted above and use the term "natural gas pipeline or facility." This proposed phrase is broad enough in this context to evade the problems discussed herein.

E. The Proposal Should Include Certified Natural Gas

Interest in "certified" or "differentiate" natural gas" (collectively "Certified Natural Gas") has grown exponentially over the last few years in the energy sector to help energy companies reduce GHG emissions in their operations. These terms are used to describe a methane fuel that has environmental advantages, such as a lower greenhouse gas impact, that differentiate it from the regular geologic natural gas commodity. Given this, various entities have invested in establishing certification programs for differentiated gas with the purpose of indicating that their natural gas is produced and delivered through low-emissions processes or is being sourced responsibly.

The proposal, specifically, the 45VH2-GREET model, does not include a way to differentiate geologic natural gas from Certified Natural Gas and therefore limits the amount of investment in this area. The 45VH2-GREET model should be updated in the final rule to allow foreground inputs to account for the use of Certified Natural Gas supplies. Including Certified Natural Gas in the 45VH2-GREET model would incentivize lower emissions right at the well head and reward those who are working to reduce upstream emissions as much as possible. As such, the tool should be modified to include Certified Natural Gas.

F. AGA Supports Blending Hydrogen into the Existing Gas System

AGA supports developing and deploying hydrogen production, transportation, blending into the gas pipeline network, economy-wide utilization, safety management and training, and hydrogen-enabled gas applications in all end-use sectors, including non-blended hydrogen distributed to end-users.

Natural gas blended with hydrogen has been used safely in various natural gas distribution systems around the world for decades. For example, AGA member company Hawai'i Gas has approximately 1,100 miles of pipeline network serving approximately 70,000 residential and commercial customers. This pipeline network utilizes synthetic natural gas, RNG, liquid natural gas, and hydrogen. The pipeline network has utilized this blend of gas for years with no reported distribution, internal piping, or appliance issues due to the blend of gas.[31] Utilities like Hawai'i Gas already blend up to 15 percent hydrogen into their fuel mix. Still, each local gas system has its own unique characteristics, and identifying the ideal hydrogen blend percentage for a given system is a matter of local study.[32]

[31] *See* https://www.aga.org/natural-gas/environment/innovating-today-for-a-more-resilient-future/innovation-through-hydrogen/ (last visited February 26, 2024).
[32] *See* https://www.aga.org/leveraging-existing-gas-infrastructure-for-decarbonization/ (last visited February 26, 2024).

Historically, the blend of gas used in the gas distribution system was up to 50% hydrogen. The "town gas" that was used to fuel American homes and businesses had a high hydrogen content and remained in use through the 1970s in some locales.[33]

Utility investment in hydrogen is increasing, from piloting hydrogen production technologies to evaluating the impacts on direct-use gas equipment. Beyond technical engagement, many gas utility companies have begun to incorporate hydrogen into their emission reduction strategies while educating policymakers, regulators, and customers on their plans for a hydrogen-enabled gas system. Gas utilities recognize the integral role that hydrogen can play in reducing the carbon intensity of their operations and their customers. America's gas pipeline network can and should be leveraged to enable hydrogen energy delivery to all customers, including gas distribution customers.

Hydrogen use is not limited to the gas distribution system. Combination gas and electric utilities are looking to incorporate hydrogen into the generation sector. For example, Puget, a gas and electric utility that operates in a state with aggressive GHG goals, Washington State, is exploring the possibility of maintaining dispatch-able power generation by converting gas Combined Cycle Combustion Turbines to eventually run on up to 100% hydrogen.[34]

As gas utilities plan for things still to come, the reimagination of pipeline infrastructure for deliveries of energy sources beyond geologic natural gas is just one of the many steps AGA members are taking to promote sustainability, reduce emissions, and maintain commitments to deliver safe, cost-effective, reliable energy. The use of hydrogen in pipeline infrastructure also would catalyze and facilitate reductions in methane emissions occurring in other sectors, supporting broader decarbonization goals. Further, development of increased supplies of alternative fuels, such as hydrogen, will allow more cost-effective decarbonization of the electricity generating sector. These alternative fuels can supply "clean firm" power (*i.e.*, dispatchable power) to avoid the need to overbuild renewable electricity generating and battery storage facilities, resulting in lower overall system costs for energy decarbonization.

Furthermore, President Biden's Bipartisan Infrastructure Law included $8 billion for a Regional Clean Hydrogen Hubs Program to support the development of hubs for clean hydrogen production, delivery, and end-use. Up to $1 billion of the remaining funding will be used for demand-side support for the hubs to drive innovative end-uses of clean hydrogen.[35]

On October 13, 2023, the Biden Administration announced the seven regional clean hydrogen hubs. The hydrogen hubs include energy companies, some of which are AGA members:

1. Mid-Atlantic Hydrogen Hub
2. Appalachian Hydrogen Hub
3. California Hydrogen Hub

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[33] *Id.*

[34] *See* https://www.pse.com/en/press-release/details/Puget-Sound-Energy-Partners-with-Mitsubishi-Power-to-Develop-Renewable-Energy-Storage-Solutions (last visited February 26, 2024).

[35] https://www.whitehouse.gov/briefing-room/statements-releases/2023/10/13/biden-harris-administration-announces-regional-clean-hydrogen-hubs-to-drive-clean-manufacturing-and-jobs/.

4. Gulf Coast Hydrogen Hub
5. Heartland Hydrogen Hub
6. Midwest Hydrogen Hub
7. Pacific Northwest Hydrogen Hub[36]

With the Biden Administration's announcement of seven regional Hydrogen Hubs and an expected $50 billion in investment in clean hydrogen, and with the success of numerous hydrogen pilot programs by America's gas utilities, the process of adding more hydrogen to the fuel mix can begin in earnest.[37] Natural gas infrastructure can be used for renewable energy storage and the delivery of hydrogen and RNG derived from biogenic sources and zero-carbon electricity. The gas system's ability to integrate high-value sources of energy like hydrogen and RNG is a critical component of our nation's ability to reach ambitious GHG reduction goals.

G. The Proposal Should Not Penalize the Displacement of Natural Gas

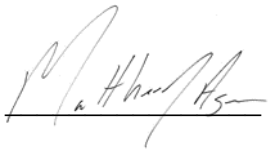
The Proposed Rule and its adoption of the 45VH2-GREET model should be revised as to not penalize or disincentives the displacement of other gases with hydrogen. While not specifically in the Proposed Rule, the current 45VH2-GREET model tests the purity of produced hydrogen and appears to treat any impurities in the gas stream as producing emissions in the well-to-gate GHG emissions of hydrogen production. In short, if hydrogen is produced from natural gas with the gas being less than 100% then the taxpayer would not receive the full value of the hydrogen produced. The taxpayer would need to remove the carbon intensity of the non-hydrogen gas from the overall value, despite the fact that the hydrogen would be displacing the usage of 100% natural gas. To resolve this issue the taxpayer could purify the gas to 100% hydrogen, but such a process would be energy intensive and could create higher energy intensive gas than simply using the hydrogen that is less than 100% with some level of non-hydrogen gas and impurities. Using more energy to fully purify the gas stream to 100% hydrogen to ensure an additional tax incentive is received appears to be inconsistent with the goal of reducing emissions. Therefore, Treasury should revise the Proposed Rule so that the method of including emissions from non-hydrogen gas in the production process does not penalize displacement of natural gas with hydrogen and does not lead to incentives for taxpayers to use additional energy to obtain full incentive.

III. Conclusion

The American Gas Association respectfully requests that the Department of Treasury and Internal Revenue Service consider these comments on this matter and revise the Proposed Rule as discussed herein.

[36] *Id.*
[37] *See* https://www.aga.org/leveraging-existing-gas-infrastructure-for-decarbonization/ (last visited February 26, 2024).

Respectfully submitted,



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