

August 8, 2023

Via Regulations.gov

U.S. Environmental Protection Agency  
EPA Docket Center, OAR Docket  
Mail Code 28221T  
1200 Pennsylvania Avenue NW  
Washington, DC 20004

Re: Proposed Emissions Standards and Guidelines for Greenhouse Gas Emissions  
from the Electric Power Sector  
EPA-HQ-OAR-2023-0072

To Whom It May Concern:

The Aluminum Association, American Iron and Steel Institute, American Forest & Paper Association, the American Chemistry Council, the American Wood Council, and Industrial Energy Consumers of America (“Associations”) appreciate the opportunity to submit the following comments on the proposed rule entitled “New Source Performance Standards for Greenhouse Gas Emissions From New, Modified, and Reconstructed Fossil Fuel-Fired Electric Generating Units; Emission Guidelines for Greenhouse Gas Emissions From Existing Fossil Fuel-Fired Electric Generating Units; and Repeal of the Affordable Clean Energy Rule” (“Proposed Rule”).<sup>1</sup>

The Aluminum Association is the voice of the US aluminum industry and represents suppliers of primary aluminum, aluminum recyclers, producers of fabricated aluminum products, and industry related businesses. The industry’s economic output directly generates \$70 billion in economic output and indirectly generates an additional \$102 billion. The continued availability of reliable and cost-effective electricity is key to the overall health and economic growth of the US aluminum industry and the effects of this rulemaking on the aluminum industry have the potential to be far-reaching.

The American Iron and Steel Institute (“AISI”) serves as the voice of the American steel industry in the public policy arena. AISI’s membership is comprised of integrated and electric arc furnace steelmakers, and associate members who are suppliers to or customers of the steel industry. Overall, the American steel industry supports nearly two million American jobs and provides

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<sup>1</sup> The Proposed Rule was published at 88 Fed. Reg. 33240 (May 23, 2023). The comment deadline was extended from July 24 to August 8 in a notice published at 88 Fed. Reg. 39390 (June 16, 2023).

approximately \$520 billion in economic output. Steel is a critical component in the continued development of all clean energy technologies to reduce America's carbon footprint.

The American Forest & Paper Association (AF&PA) serves to advance a sustainable U.S. pulp, paper, packaging, tissue and wood products manufacturing industry through fact-based public policy and marketplace advocacy. The forest products industry is circular by nature. AF&PA member companies make essential products from renewable and recyclable resources, generate renewable bioenergy and are committed to continuous improvement through the industry's sustainability initiative — Better Practices, Better Planet 2030: Sustainable Products for a Sustainable Future. The forest products industry accounts for approximately 5% of the total U.S. manufacturing GDP, manufactures about \$350 billion in products annually and employs about 925,000 people. The industry meets a payroll of about \$65 billion annually and is among the top 10 manufacturing sector employers in 43 states.

The American Chemistry Council ("ACC") represents a diverse set of companies engaged in the business of chemistry, an innovative, \$517 billion enterprise, driving innovation through investments in research and development that exceed \$11 billion annually, providing 537,000 skilled, good-paying jobs—plus over 4.1 million related jobs. The business of chemistry operates by creating complex chemical reactions requiring large amounts of process heat and power, making reliable access to affordable energy and feedstocks essential to the industry's current and long-term competitiveness. ACC members also provide critical chemistries, materials, and products used in the sourcing, manufacture, production, and deployment of lower greenhouse gas (GHG) emissions technologies and infrastructure across the U.S. and global economies – including but not limited to abatement solutions under consideration in this proceeding. In short, chemical manufacturers are affected as energy users, GHG reduction technology providers, and, indirectly, GHG reduction technology consumers.

The American Wood Council ("AWC") is the voice of North American wood products manufacturing, representing over 80 percent of an industry that provides approximately 400,000 men and women in the United States with family-wage jobs. AWC members make products that are essential to everyday life from a renewable resource that absorbs and sequesters carbon. Staff experts develop state-of-the-art engineering data, technology, and standards for wood products to assure their safe and efficient design, as well as provide information on wood design, green building, and environmental regulations. AWC also advocates for balanced government policies that affect wood products working with other wood product trade groups.

The Industrial Energy Consumers of America ("IECA") is a nonpartisan association of leading manufacturing companies with \$1.1 trillion in annual sales, over 12,000 facilities nationwide, and with more than 1.8 million employees. IECA membership represents a diverse set of industries including chemicals, plastics, steel, iron ore, aluminum, paper, food processing, fertilizer, insulation, glass, industrial gases, pharmaceutical, building products, automotive, independent oil refining, and cement.

The Associations do not object in principle to EPA's efforts to regulate GHG emissions from power plants. But we write to express our concern about the manner in which EPA proposes to regulate. As explained below, the Proposed Rule is unprecedented in virtually all respects. It would directly and indirectly reshape the power sector. It would impose tens of billions of dollars in costs and (according to EPA) generate over \$100 billion in speculative benefits. It would reach far beyond power plants themselves, requiring the development and regulation of wholly new national infrastructure and industries for carbon capture and sequestration and low-GHG hydrogen, which at the target carbon capture and sequestration (CCS) efficiencies or percentage hydrogen co-firing are not proven technologies, adequately demonstrated, nor cost-effective. Furthermore, all of the needed infrastructure would be subject to our permitting system, which is in need of reform, adding further uncertainty to achieving EPA's intended results within the set aggressive and aspirational timeline without impacting our nation's electricity reliability. It would require EPA to engage in key issues that lie far outside of its legal authority and core competencies. It could damage the competitiveness of U.S. manufacturers. It would do all of this without any clear mandate or direction from Congress. The Associations respectfully submit that EPA does not have authority under the Clean Air Act ("CAA") to promulgate such a rule.

**I. The Proposal Threatens the Reliability and Affordability of Energy Critical to the Competitiveness of U.S. Manufacturers, as well as Leakage of Jobs and Emissions**

U.S. manufacturers, including energy intensive, trade exposed ("EITE") manufacturers, create products used by consumers and businesses around the world and employ millions of Americans in high-paying jobs. Many of our manufacturing facilities are in rural areas and provide high-paying jobs that are the foundation of their communities. The U.S. manufacturing sector has been a key driver of innovation and economic growth, with one of the highest economic multipliers of any economic sector – for every one worker in manufacturing, 4.4 workers are added in the overall U.S. economy, including indirect and induced impacts. The manufacturing sector accounts for 11% of U.S. GDP, or \$2.8 trillion. It also accounts for about one in ten private sector jobs (13 million), and the average annual compensation including benefits in 2021 of \$96,000 is 18% higher than the average American private sector worker.

The Associations' members rely heavily on the Nation's electric power system to supply energy needed to operate their facilities. Accordingly, maintaining a reliable and affordable supply of electric power and other energy is a critical interest of the Associations and their members and employees. While the Associations support effective and proven efforts to decarbonize electricity generation to transition into a low-carbon economy, achieving this goal cannot come at the expense of accessible, low-cost electricity. The reliability and cost impacts apply to multiple potential energy use scenarios, such as: purchased electricity; mandated CCS for the use of fossil fuels; or mandated fuel-switching, such as from natural gas to "low-GHG hydrogen."

We share the concern expressed in comments from the Midwest Ozone Group<sup>2</sup> that the rule as proposed would have serious adverse impacts on energy reliability. As stated in recent testimony to the Senate Committee on Energy & Natural Resources by PJM Interconnection CEO Manu Asthana:

There is a critical need for integrating analysis of the reliability impact of specific state and federal policies prior to those policies being adopted. We remain concerned that compliance dates that impact the generation fleet are being chosen without such a rigorous analysis always being undertaken. Although EPA does undertake a limited analysis in certain rulemakings, its analysis does not take into account the reliability attributes needed by system operators or the feasibility of cost of the compliance alternatives proposed in the particular rulemaking. From a process standpoint, it would be appropriate for a more thorough reliability analysis to become a standing requirement for federal actions that could impact reliability. And although EPA has entered into a Memorandum of Understanding with the Department of Energy to consider reliability issues as part of EPA rulemaking deliberations, the reliability analysis and consultation should be undertaken with those entities that actually operate the grid in addition to, and not as a replacement for, coordination with DOE.<sup>3</sup>

The Associations support the Federal Energy Regulatory Commission's ("FERC") decision to weigh in on the impact of the EPA's proposed rule on the grid and on energy reliability at its upcoming November 2023 Reliability Technical Conference.<sup>4</sup>

In addition, as EITE manufacturers, we compete globally, and many of our products are commodities that have pricing structures set on a global basis. For larger industrial facilities, energy is traditionally one of our highest costs of production, and increasing these costs will harm our ability to compete. We continually invest in energy efficiency and other measures that help reduce these costs.

As proposed, the rule would substantially raise energy costs. Climate policies must ensure the competitiveness of U.S. manufacturing, especially the EITE sectors. These policies

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<sup>2</sup> Midwest Ozone Group (MOG) Comments on EPA Proposed Rule, "New Source Performance Standards for Greenhouse Gas Emissions from New, Modified and Reconstructed Fossil Fuel-Fired Electric Generating Units; Emission Guidelines for Greenhouse Gas Emissions from Existing Fossil Fuel-Fired Electric Generating Units; and Repeal of the Affordable Clean Energy Rule" (Docket No. EPA-HQ-OAR-2023-0072) 88 Fed. Reg. 33240 (May 23, 2023).

<sup>3</sup> See MOG Comments, *supra*, at pp. 10-11.

<sup>4</sup> See <https://www.ferc.gov/media/ad23-9-000-reliability-technical-conference>.

See also Letter from Senator Capito and Senator Barrasso Calling on FERC to Analyze the Impact of the Proposed Clean Power Plan 2.0 (June 30, 2023). <https://www.epw.senate.gov/public/index.cfm/2023/7/capito-barrasso-call-on-ferc-to-analyze-the-impact-of-the-proposed-clean-power-plan-2-0>

must also recognize that many of the products and inputs made by EITE industries help reduce GHG emissions and will be essential to meeting climate goals.<sup>5</sup>

Increasingly, U.S. manufacturers face competition from foreign suppliers who import unregulated, higher-carbon materials into the U.S. market without complying with the stringent wage, environmental, health, and safety standards imposed on domestic manufacturers. These imports increase global carbon emissions by raising shipping and transportation-related emissions, and in many cases, are made using production capacity that is less energy efficient and more carbon-intensive than that currently operating in the United States. Making progress toward reducing GHG emissions while minimizing costs to society requires achievable and cost-effective policies, as well as regulatory environments that foster innovation, investment, and economic growth.

EPA should carefully consider potential unintended outcomes – not only to U.S. manufacturers and the jobs they support, but also to our climate. As proposed, the rule risks serious market-distorting effects that inadvertently could undermine – not advance – ongoing efforts to reduce global GHG emissions. U.S. manufacturers are among the most energy efficient in the world. The U.S. economy has a carbon intensity, as measured in CO<sub>2</sub> emissions per dollar of GDP,<sup>6</sup> that is one-third lower than the global average, and up to three-quarters lower than that of many countries from which we have significant trade deficits.<sup>7</sup> In other words, U.S. manufacturers are not the drivers of net global GHG emissions increases and should be a part of the solution the Biden Administration is seeking. Indeed, by dramatically increasing costs and risks to U.S. manufacturers, U.S. workers, and the American public, the proposed rule ironically risks producing a net increase in global GHG emissions through carbon leakage, by shifting more economic activity and growth to other countries that are less efficient producers and users of energy, have longer, more carbon-intensive supply chains, and do not operate under the environmental standards of EPA and other U.S. authorities.

The costs from the proposal also could divert investments in innovation and delay or eliminate opportunities for technological breakthroughs that are necessary to achieve meaningful improvements in energy efficiency and lower GHG emissions. These opportunity costs could be enormous. The federal government should focus on opportunities to promote more U.S. manufacturing to supply both domestic and global demand for products at a lower emissions-intensity than current marginal suppliers. Such focus would strengthen the U.S. economy, job opportunities, and our environment while reducing global GHG emissions.

As climate policies are developed, policymakers need to be mindful that today's markets are highly competitive and interconnected. Policymakers also need to consider the ability of the

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<sup>5</sup> In this regard, we support EPA's proposal to exclude combined heat and power units from the rule. Such units are common in the manufacturing sector and are a prime example of how American industry achieves energy efficiency and correspondingly lower GHG emissions in the absence of prescriptive government mandates.

<sup>6</sup> See <https://data.worldbank.org/indicator/EN.ATM.CO2E.KD.GD?locations=US-1W>

<sup>7</sup> See <https://data.worldbank.org/indicator/EN.ATM.CO2E.KD.GD?end=2019&locations=US-1W-VN-MY-IN-CN&start=1990&view=chart>

manufacturing sector to absorb the uncertainty and costs associated with reducing CO<sub>2</sub> and other GHG emissions.

Any climate policy must enable EITE industries to create jobs and succeed in the global economy. GHG policies must recognize that increased direct and indirect energy and related costs adversely impact manufacturers. Such policies should ensure that the international competitiveness of U.S. manufacturing is not hindered but is instead enhanced.

## **II. The Scope of the Proposed Rule is Unprecedented**

The Proposed Rule would fundamentally transform the electric generating sector. Existing coal-fired power plants would be required to install carbon capture and sequestration (“CCS”) systems, operating at an aspirational level of capture efficiency, except for those that make a binding commitment to shut down in the near future. The latter units would be required to co-fire a substantial proportion of natural gas prior to shut down. Similarly, most new and existing electric generating units (“EGUs”) powered by combustion turbines would be required to install CCS or, alternatively, combust significant amounts of “low-GHG hydrogen,” defined in a manner that even the Department of Energy has deemed impracticable. At full implementation, the vast majority of fossil fuel fired EGUs in the U.S. would be subject to either the new source standards or emissions limitations derived from EPA’s emissions guidelines. No corner of the fossil fuel fired electric sector would be left untouched.

Moreover, the proposed emissions standards and guidelines would apply far more broadly than any prior EPA regulations for the power sector. Affected facilities will not be able to simply install or modify equipment within their facilities (such as a scrubber or selective catalytic reduction system) to comply with the proposed standards. Instead, the proposal would effectively impose mandatory legal obligations to develop and operate the infrastructure needed to support the emissions control measures that constitute the best system of emissions reduction (“BSER”) for the proposed standards. These infrastructures are well outside the bounds of the EPA-defined source categories. For example, only carbon sequestration sites meeting specified criteria would be eligible for the disposition of CO<sub>2</sub> captured by affected or designated facilities. Those sites may be hundreds of miles away from affected or designated facilities and may even be across state lines. Similarly, only hydrogen meeting strict CO<sub>2</sub> intensity requirements could be used for facilities choosing the “low-GHG hydrogen” compliance alternative. Both pathways would require significant increases in generation and transmission of lower-emissions electricity to address the energy requirements of industrial carbon capture and the energy intensive process needed to meet EPA’s standard for “low-GHG hydrogen” – increases that will require fundamental changes to how EPA, the Federal Energy Regulatory Commission, the Department of Energy, regional transmission organizations, local grid operators, and states handle approval, siting and permitting of transmission infrastructure.<sup>8</sup> The proposal would, thus, cast a regulatory

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<sup>8</sup> Compare DOE, *Queued Up... But in Need of Transmission*, DOE/OP-0015 (April 2022) “Independent estimates indicate that to meet our growing clean electricity demands, we’ll need to expand transmission systems by 60% by 2030 and may need to triple those systems by 2050)” with Politico, *Down to the wire: Biden’s green goals face a*

net across facilities and operations that go far beyond the four-corners of the affected power plants.

EPA estimates that the net present value of the compliance costs for the power sector is \$24 billion – a value that does not take into account the substantial costs that will be borne by the nation as a whole due to the federal government tax credits and financial incentives that will be funded by taxpayers. Yet the EPA deducts them from the costs incurred directly by the power sector. Additionally, the Agency vastly underestimates the substantial cost of the additional infrastructure required to connect the entire grid to necessary pipelines, pore space, and transmission capacity. 88 Fed. Reg. at 33410. EPA projects that the Proposed Rule would generate benefits of up to \$118 billion. *Id.* at 33412. To put these values into context, the costs would translate to over \$70 for every citizen of the United States and the projected benefits would amount to over \$350 per citizen. By any measure, these are material impacts on the national economy.

In short, the economic implications of the proposed regulatory scheme are vast and the resulting increased cost of electricity will be passed onto homeowners and manufacturing companies alike. Under the Federal Power Act, Congress granted FERC the authority and responsibility to ensure that interstate electric rates are just and reasonable. Because the Rule increases the cost of generating power on a facility-by-facility basis, FERC may find that the facility's cost of power does not qualify as 'just and reasonable' and reject a power plant's ability to generate power, further impacting reliability for the American consumer.

The Proposed Rule also takes EPA far outside of its authority and core responsibilities and competencies. For example, such strict and broadly applicable emissions standards have obvious implications for grid reliability, resource planning, and other fundamental elements of the electric power sector. EPA recognizes that fact and seeks to address it through a "Resource Adequacy TSD" and related analysis in the preamble. *See, e.g.*, 88 Fed. Reg at 33415. Yet, EPA has no statutory authority or responsibility for power sector management. At the federal level, Congress granted authority to the Federal Energy Regulatory Commission. More importantly, legal authority over power sector management is traditionally held by the States and its individual public service commissions. The Proposed Rule would have a material impact on the function of the power sector as a whole and the Agency does not have the legal responsibility or technical know-how to fully assess and address that impact. "Enforcement discretion" to address unintended outcomes of the Proposed Rule is insufficient to remedy its legal and practical flaws. *Id.*

Other similar examples in the Proposed Rule include the need to develop a national pipeline and sequestration infrastructure to accommodate the CCS compliance alternative and

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*power grid reckoning* (April 18, 2021), available at <https://www.politico.com/news/2021/04/08/biden-green-goals-power-grid-480446> ("building long transmission lines has been hampered by what developers call the 'three P's': planning, permitting, and paying for it... These long-haul transmission lines, they take eight to 10 years to build" (citations omitted)).

the need to develop a national “low-GHG hydrogen” production and distribution system. In short, EPA simply does not have the legal authority or policy expertise for this proposed rule.

Notably, Congress has tried and failed countless times to enact legislation that would achieve the deep GHG emission reductions from the power sector that would be required by the Proposed Rule. The most notable recent example is the “American Clean Energy and Security Act of 2009” (the so-called “Waxman-Markey” bill), which included provisions to avoid leakage of U.S. jobs and emissions from EITE manufacturers, but failed to pass a Congress that placed a high priority on climate issues. In the Proposed Rule, EPA extensively touts more recent legislation that was enacted into law – including the “Infrastructure Investment and Jobs Act” and the “Inflation Reduction Act” – that provide substantial economic incentives for developing and implementing measures to reduce GHG emissions. But tellingly, these laws do not mandate GHG emissions reductions for the power sector; rather, their focus is on financial incentives. It is thus evident that EPA seeks to impose a mandatory emissions reduction program on the electric power sector that Congress itself has been unwilling and unable to impose.

In sum, the Proposed Rule seeks to transform the electric power sector, is dependent on the development of extensive new infrastructure and industries, would cause economic impacts measured in the hundreds of billions of dollars, and would impose an expansive regulatory scheme that Congress itself has not enacted. Without a doubt, the Proposed Rule is consequential, and certainly far more so than any prior rule adopted by EPA under CAA § 111.

### **III. EPA Lacks Authority to Promulgate the Proposed Rule**

EPA asserts that it has authority to impose the proposed emissions standards under Clean Air Act (“CAA”) § 111. 88 Fed. Reg. at 33266. According to EPA, the Proposed Rule reflects “EPA’s traditional approach to establishing pollution standards under the Clean Air Act.” *See* Press Release. Indeed, EPA contends that, “[c]onsistent with the statutory command of section 111, the proposed NSPS and emission guidelines reflect the application of the best system of emission reduction (BSER) that, taking into account costs, energy requirements, and other statutory factors, is adequately demonstrated.” 88 Fed. Reg. at 33243.

But CAA § 111 does not confer the regulatory authority that EPA claims. EPA is authorized under CAA § 111 to impose “standards of performance,” which must reflect “the degree of emission limitation achievable through the application of the best system of emission reduction which ... the Administrator determines has been adequately demonstrated.” CAA § 111(a)(1). Such standards of performance may apply to “new sources” and “existing sources” belonging to listed source categories. *Id.* at §§ 111(b)(1)(B) and (d)(1). As explained above, EPA proposes to do more than regulate emissions from power plants, the relevant “sources” within the given source categories. To accomplish the emissions reductions that EPA expects would be achieved by the Proposed Rule, the scope of the rule extends to the off-site transportation and disposition of CO<sub>2</sub> captured by power plants opting for the CCS compliance alternative and the methods used to produce “low-GHG hydrogen.” The Proposed Rule thus reaches far beyond the “sources” that it is authorized to regulate under CAA § 111.



Moreover, also as explained above, the Proposed Rule represents an unprecedented claim of regulatory authority. From virtually any perspective – e.g., the scope of applicability (encompassing power plants and supporting national industries), costs and benefits, implications for reliability and resource planning – the Proposed Rule stands apart from the dozens of rules that EPA previously issued over the 50-year history of the NSPS program. But such an expansive claim of authority cannot be grounded in a generally stated statutory provision, such as CAA § 111. The U.S. Supreme Court has ruled that such an “extraordinary” claim of authority exists only when there is “clear congressional authorization.” *West Virginia v. EPA*, 142 S.Ct. 2587, 2609 (2022). Because no such clear congressional authorization exists here, EPA cannot rely on CAA § 111 as authority for imposing the emissions standards outlined in the Proposed Rule.<sup>9</sup>

#### **IV. EPA’s BSER Determinations Are Based on Aspirational Assumptions Regarding Emissions Reduction Technology Efficacy and Infrastructure Availability**

EPA’s proposed BSER determinations are not only legally infirm, they lack factual support, relying on aspirational assumptions regarding the maturity of the applicable emissions reduction technologies, the efficacy of such technologies, and the availability of critical infrastructure needed to support nationwide deployment. The Agency ignores the CAA’s directive of requiring BSER to be adequately demonstrated. To be demonstrated, these technologies must be commercially available and proven to be effective at the proposed level of emission reductions at the time of rule. The EPA cannot speculate or predict advances in technology, infrastructure, or supply.

**Carbon Capture Infrastructure:** EPA’s carbon capture technology pathway assumes the broad availability of carbon sequestration capacity geographically aligned with the footprint of the national power grid. EPA cites government studies identifying the sequestration potential of various former enhanced oil recovery and deep saline formations. Most of that referenced sequestration capacity is undeveloped and presumes easy access to ownership or use rights for the pore space, and then rapid siting, permitting, construction, and commercial-scale operation of sequestration facilities and supporting infrastructure in areas with no prior operations. In light of delays to the NEPA review and Class VI injection well permitting process and the evolving landscape of state policies governing pore space access, carbon capture and sequestration at the scale envisioned by the rule is uncertain.

CO<sub>2</sub> pipeline permitting raises similar challenges. Today’s CO<sub>2</sub> pipeline infrastructure offers a fraction of the geographic reach and capacity needed to support nationwide, commercial scale operations across the power sector by 2035. Current pipeline infrastructure is tightly tied to specific regions and corridors where there has been active oil and gas production. National deployment will require rapid and massive expansions to the CO<sub>2</sub> pipeline footprint in areas with

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<sup>9</sup> In any event, EPA’s novel interpretation of Section 111(d), which is an assertion of extravagant agency power that is untethered from the statutory language and that departs dramatically from prior agency understandings of its authority, does not warrant judicial deference and clearly is unlawful under application of traditional statutory construction principles.

no prior history of such infrastructure or operations – at a time when infrastructure permitting (even renewable transmission) is facing greater challenges than ever.

**Hydrogen Infrastructure:** EPA has not demonstrated a reasonable likelihood that the infrastructure needed to support broad deployment of lower-concentration blended hydrogen will be feasible by 2032, let alone the high-hydrogen blends anticipated for 2038. EPA acknowledges the lack of existing infrastructure but assumes that the market will solve the problem. Companies will just build new electrolysis hydrogen production facilities near existing infrastructure and then solve the problem of reaching customers in all 50 states.

Again, these assumptions are aspirational. EPA concedes that there are only roughly 1600 miles of dedicated hydrogen pipeline infrastructure nationally – a fraction of the 3,000,000 miles of natural gas pipeline in place to serve the whole nation. Moreover, the hydrogen infrastructure that is in place is packed into small corridors within limited geographic areas. According to a 2021 CRS Report:

*As of December 2020, there were 1,608 miles of active hydrogen pipeline in the United States. Over 90% of these pipelines are located along the Gulf Coast in Texas, Louisiana, and Alabama, primarily serving refineries and ammonia plants in the region (Figure 1). Comparatively short hydrogen pipelines are located elsewhere in Texas, Louisiana, and in 9 other states. California has 16 miles of hydrogen pipeline, Indiana has 14 miles, and the remaining 7 states have fewer than 10 miles each. By comparison, there are over 300,000 miles of U.S. natural gas transmission pipeline (not counting distribution mains) located in the 48 contiguous states and Alaska.<sup>10</sup>*

The Bipartisan Infrastructure Law’s infusion of funding for hydrogen hubs will be a critical catalyst for increased investment, but even these hubs will not provide the national footprint needed to reach all regulated facilities, and the timing for siting, permitting, construction, and operation of the hubs and any supplemental pipelines is unlikely to align with EPA’s aspirational implementation deadlines. Similarly, while natural gas infrastructure will provide a long-term opportunity for blended-hydrogen distribution, the technical issues associated with pipeline corrosion and other adverse impacts will limit its use as a short-term panacea for inadequate hydrogen infrastructure.

**Definition for lower emissions hydrogen:** The Proposed Rule disregards the statutory directives of Congress and the technical judgment of the Department of Energy with respect to defining “lower emissions hydrogen.” The proposed rule acknowledges that Congress provided a “textual definition of “clean hydrogen” in the Bipartisan Infrastructure Law.<sup>11</sup> That definition defines clean hydrogen as “hydrogen produced with a carbon intensity equal to or less than 2

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<sup>10</sup> Congressional Research Service, *Pipeline Transportation of Hydrogen: Regulation, Research, and Policy*, R46700 (March 2, 2021)(internal citations omitted), [https://www.everycrsreport.com/files/2021-03-02\\_R46700\\_294547743ff4516b1d562f7c4dae166186f1833e.pdf](https://www.everycrsreport.com/files/2021-03-02_R46700_294547743ff4516b1d562f7c4dae166186f1833e.pdf)

<sup>11</sup> 88 Fed. Reg. 33240, 33310.

kilograms of carbon dioxide-equivalent produced at the site of production per kilogram of hydrogen produced.”<sup>12</sup>

Congress further directed the Department of Energy to develop a “clean energy production standard” that would start with that definition and then take into consideration technological and economic feasibility.<sup>13</sup> In June 2023, DOE issued updated [Clean Hydrogen Production Standard Guidance](#) (June 2023) establishing a target of 4.0 kgCO<sub>2</sub>e/kgH<sub>2</sub> for life cycle (defined here as “well-to-gate”) greenhouse emissions associated with hydrogen production.<sup>14</sup>

However, the Proposed Rule disregards both Congress and DOE, setting its BSER standard for lower-emissions hydrogen almost an order of magnitude lower, at GHG emissions rate of 0.45 kg CO<sub>2</sub> e/kg H<sub>2</sub> or less, from well-to-gate.<sup>15</sup> In practice, this restriction would likely eliminate the hydrogen pathway as a viable option in many parts of the country where adequate supplies of electrolysis-based hydrogen and supporting infrastructure would remain scarce during the phase in period. This narrow definition would also negate many of the innovations under way for lower-emissions hydrogen technologies, many emerging from federally funded research.<sup>16</sup> This, in turn, could render existing hydrogen production technologies stranded assets, even after investment in carbon capture or other reduction technologies.

The Proposed Rule’s definition would also impede innovation in new lower emissions hydrogen technologies, cutting off efforts to develop lower-emissions natural-gas based hydrogen processes. It would essentially negate many of the innovations under way for lower-emissions hydrogen technologies, making natural gas manufactured through renewable energy and water electrolysis the only technology relevant for compliance purposes today.<sup>17</sup> This, in turn, would render existing hydrogen production technologies stranded assets, even with investment in carbon capture or other reduction technologies, and impede innovation in new lower emissions hydrogen technologies.

The Proposed Rule’s unfounded assumptions regarding the availability of infrastructure needed to support its preferred technologies, and its efforts to unilaterally dictate the future of hydrogen innovation and production (rendering its own presumptive BSER hydrogen pathway unattainable in practice), are facially arbitrary, capricious, and not in accordance with law.

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<sup>12</sup> 42 U.S. Code § 16166.

<sup>13</sup> *Id.*

<sup>14</sup> <https://www.hydrogen.energy.gov/pdfs/clean-hydrogen-production-standard-guidance.pdf>

<sup>15</sup> *See* 88 Fed. Reg. at 33310.

<sup>16</sup> *See id.* at 33310. While EPA attempts to tie its definition to the range outlined in the tax credit provisions of the inflation reduction act, the language of the provision and intent of the statute do not support this interpretation.

<sup>17</sup> *See id.* at 33310 (“Electrolyzers with various low-GHG energy inputs, like solar, wind, hydroelectric, and nuclear, appear most likely to produce hydrogen that would meet the 0.45 kg CO<sub>2</sub> e/kg H<sub>2</sub> or less, from well-to-gate criteria.”).

## V. Conclusion

The Proposed Rule’s regulatory overreach in its sweeping interpretation of its legal discretion, aspirational assumptions about technological feasibility and infrastructure development, and insufficient analysis of impacts on electricity reliability and affordability, reflect significant legal and policy flaws. In addition, the Proposed Rule does not sufficiently reflect the expertise of the federal agencies tasked with building a clean hydrogen economy, placing a heavy hand on the scale of technology, energy market design, and market innovation, while disregarding the practical feasibility of its own standard.

Taken as a whole, the unstated but clear purpose of the Proposed Rule is simply to bring about the end of fossil fuel power generation. Well understanding that EPA has no authority to do this directly, it proposes instead to accomplish this desired result by making emissions reductions so expensive and complicated (via CCS, low-GHG hydrogen and otherwise) that there will be no choice left but to abandon what is our only remaining source of least cost, reliable and non-intermittent power. The Agency even incentivizes the closure of these facilities, giving compliance options that would allow fossil-fuel fired EGUs to continue current operations or blend natural gas so long as they commit to ending operations by a designated date. The Agency projects that this will be the most cost-effective, and most likely, preferable option for fossil-fuel EGUs. In encouraging high emitting power plants to close, the EPA is assuming that the demand for electricity will be filled by increases in renewable energy generation. This strategy is an indirect way to achieve generation shifting from fossil fuels to renewables, an approach to reducing emissions that was struck down by the Supreme Court in *West Virginia v. EPA*. What EPA clearly lacks the authority to do directly cannot be accomplished indirectly, especially if in doing so electricity reliability – and all the jobs and economic activity it ensures – is not sufficiently addressed.

The EPA’s interpretation of BSER and “adequately demonstrated” in the Proposed Rule would create unlawful precedent on how to regulate carbon and other air pollutant emissions for other industries in the future. Aspirational estimates about the affordability and effectiveness of not yet demonstrated control technologies will create exorbitant burdens and uncertainty for manufacturers, slowing investment, job growth, and paradoxically, further emission reductions within the US.

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The Associations appreciate the opportunity to offer comments on the Proposed Rule. If you have questions or need more information, please contact the undersigned.

U.S. Environmental Protection Agency

August 8, 2023

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