

February 6, 2024

## By Email

Dr. Dorothy Davidson  
Chief Executive Officer/President  
Midwest Alliance for Clean Hydrogen (MachH2)

Dear Dr. Davidson and MachH2 leadership team,

The undersigned environmental, environmental justice, consumer advocate, public health and community groups from Illinois, Indiana, and Michigan are extremely concerned by efforts from participants in the Midwest Alliance for Clean Hydrogen Hub (MachH2) to eliminate common sense, legally required rules for the federal 45V clean hydrogen production tax credits.<sup>1</sup> We have learned that MachH2 may be coordinating with other hydrogen hubs to try to undermine the 45V rules proposed by Treasury,<sup>2</sup> under which all electrolytic hydrogen projects must prove that they are powered by clean energy that meets three criteria: incrementality, geographical deliverability, and hourly temporal matching. Those criteria are required by law, as supported by the Environmental Protection Agency's (EPA) letter to Treasury,<sup>3</sup> and constitute key protections against increased climate and health pollution and electricity price spikes that could be caused by hydrogen production.

Efforts by MachH2 participants to subvert and weaken those three criteria<sup>4</sup> raise major concerns about the potential harms of this hydrogen hub, especially the harms that would result from

---

<sup>1</sup> This letter only covers MachH2's efforts to weaken rules for electrolytic hydrogen, and does not cover blue hydrogen, about which there are deep concerns regarding the potential harmful implications for Indiana residents. It also does not cover issues of the use of offsets or negative carbon accounting for biogenic feedstocks, which could also undermine the integrity of the tax credits.

<sup>2</sup> Treasury, Section 45V Credit for Production of Clean Hydrogen, 88 Fed. Reg. 89,220 (Dec. 26, 2023), <https://www.federalregister.gov/documents/2023/12/26/2023-28359/section-45v-credit-for-production-of-clean-hydrogen-section-48a15-election-to-treat-clean-hydrogen> (45V Proposed Rule).

<sup>3</sup> EPA, Letter to Assistant Secretary Batchelder, Department of Treasury (Dec. 20, 2023), <https://home.treasury.gov/system/files/136/45V-NPRM-EPA-letter.pdf> (EPA 45V Letter).

<sup>4</sup> MachH2 participants' public comments against aspects of the three pillars include Constellation's white paper:

Ensuring Equal Access To Clean Hydrogen <https://www.constellationenergy.com/our-work/what-we-do/generation/ensuring-equal-access-to-clean-hydrogen.html>; Comments to the IRS from Bloom:

<https://www.regulations.gov/comment/IRS-2022-0029-0128>, Comments to the IRS from BP:

<https://www.regulations.gov/comment/IRS-2022-0029-0040>, Comments to the IRS from Constellation:

<https://www.regulations.gov/comment/IRS-2022-0029-0192>, Comments to the IRS from Invenergy:

<https://www.regulations.gov/comment/IRS-2022-0029-0176>, Comments to the IRS from Plug Power:

<https://www.regulations.gov/comment/IRS-2022-0029-0059>, Comments to the IRS from BayoTech:

<https://www.regulations.gov/comment/IRS-2022-0029-0105>, Comments to the IRS from AirLiquide:

<https://www.regulations.gov/comment/IRS-2022-0029-0054>. See also, Letter from Sen. Cantwell et al. re: 45V

(Nov. 6, 2023), <https://emails.steptoecommunications.com/21/9498/uploads/694082982-senate-letter-to-admin-on->

diverting existing zero-carbon energy from the grid to hydrogen production. If MachH2 imperils the achievement of our states' climate goals, harms the health of our communities, and causes electricity price spikes that disproportionality impact low- and moderate-income households, it will face stiff opposition from our coalition and from communities that will bear the brunt of harmful, and avoidable, pollution.

### **The three pillars are essential to meeting the requirements of Section 45V.**

Incrementality, deliverability and hourly matching, often referred to as the “three pillars,” are required by law. Section 45V awards tax credits based on the “lifecycle greenhouse gas emissions rate” of hydrogen projects. Section 45V defines “lifecycle greenhouse gas emissions” of hydrogen projects by referencing Section 211(o)(1)(H) of the Clean Air Act. This section in turn defines those emissions to include both “direct emissions and significant indirect emissions” linked to the production of a fuel. EPA has supported Treasury’s determination that for electrolytic hydrogen projects, induced emissions impacts on the grid resulting from hydrogen projects are “significant indirect emissions” given their magnitude.<sup>5</sup> Absent the three pillars, induced grid emissions from hydrogen production will, in the vast majority of cases, far exceed the emissions limits set forth in 45V and amount to a **cumulative hundreds of millions of tons of carbon emissions increases**. This has been overwhelmingly demonstrated by numerous independent studies and is driven by electrolyzers’ very large electricity demand.<sup>6</sup>

Backsliding on Treasury’s proposed rule—for example by jettisoning or significantly weakening the incrementality requirement for existing nuclear power plants, as advocated for by some MachH2 participants<sup>7</sup>—would lead to significant emissions increases from hydrogen production, in violation of 45V’s statutory requirements. It would also directly harm communities that are home to some of our states’ dirtiest power plants, which would run more to replace the zero-carbon energy diverted to hydrogen production.

---

[45v-hydrogen-ptc.pdf](#) (following the October 16, 2023 letter from Sen. Whitehouse et al. urging Treasury to require incrementality, geographic deliverability, and hourly matching, [https://www.whitehouse.senate.gov/imo/media/doc/letter\\_to\\_treasury\\_on\\_45v\\_hydrogen\\_tax\\_credit.pdf](https://www.whitehouse.senate.gov/imo/media/doc/letter_to_treasury_on_45v_hydrogen_tax_credit.pdf)).

<sup>5</sup> 45V Proposed Rule, 88 Fed. Reg. 89,229 (stating that incrementality, temporal hourly matching, and deliverability are “important guardrails,” and without them, “there is a significant risk that hydrogen production would significantly increase induced grid GHG emissions beyond the allowable levels required to qualify for the section 45V credit”); EPA 45V Letter at 4-5.

<sup>6</sup> Ricks, W., Xu, Q., & Jenkins, J. D. (2023). *Minimizing emissions from grid-based hydrogen production in the United States*. Zenodo. <https://doi.org/10.5281/zenodo.10041735>; Schittekatte, T., Cybulsky, A., Giovanniello, M., & Mallapragada, D. (2023). *Producing hydrogen from electricity: How modeling additionality drives the emissions impact of time matching requirements* [Preprint]. In Review. <https://doi.org/10.21203/rs.3.rs-2834020/v1>; Energy Innovation. (n.d.). *Smart Design Of 45V Hydrogen Production Tax Credit Will Reduce Emissions And Grow the Industry—Energy Innovation: Policy and Technology*. Retrieved August 15, 2023, from <https://energyinnovation.org/publication/smart-design-of-45v-hydrogen-production-tax-credit-will-reduce-emissions-and-grow-the-industry/>; Haley, B., & Hargreaves, J. (2023). *45V Tax Credit: Three-Pillars Impact Analysis*. Evolved Energy Research. <https://www.evolved.energy/post/45v-three-pillars-impact-analysis>; Blandford, G., & Bistline, J. (n.d.). *Impacts of IRA’s 45V Clean Hydrogen Production Tax Credit*. EPRI. Retrieved January 29, 2024, from <https://www.epri.com/research/products/000000003002028407>.

<sup>7</sup> Comments to the IRS from Constellation: <https://www.regulations.gov/comment/IRS-2022-0029-0192>.

**If it is successful in subverting strong national 45V rules, MachH2 will cause harmful climate and public health consequences that undermine our states' climate goals.**

By opposing the three pillars, MachH2 participants are effectively pursuing hydrogen projects that will drive increased fossil fuel generation on the grid. This will disproportionately affect communities living near fossil fuel generators, who are forced to breathe the dirty air from these generators. In fact, 43 environmental justice groups spanning 12 states urged the Biden Administration to require the three pillars for all electrolytic hydrogen production to safeguard against an increase in health-harming pollution from fossil fuel generation.<sup>8</sup> Signatories to that letter include GAIA (Global Alliance for Incinerator Alternatives), Illinois People's Action, Metro East Green Alliance and United Congregations of Metro East from Illinois; Citizens Action Coalition, Earth Charter Indiana, Just Transition Northwest Indiana and Indiana Environment Clean Energy J40, Inc. from Indiana; and the Michigan Environmental Justice Coalition.

Diverting existing zero-carbon energy—notably, nuclear energy—from the grid to hydrogen production without incrementality will also put our states' ambitious climate goals at risk. For example, Illinois' 2021 Climate and Equitable Jobs Act and Michigan's 2023 Clean Energy & Climate Action Package require the retirement of and reduced reliance on fossil fuel power plants. While Indiana does not have a comparable clean energy target, eliminating incrementality requirements will still cost Hoosiers by harming public health and raising energy prices. Allowing hydrogen producers to add substantial new electricity demand on the grid and cannibalize existing zero-carbon energy to meet that demand will drive increased fossil fuel generation to fill the gap and significantly compromise the achievement of those hard-fought policies.

**Unless it adheres to the three pillars, MachH2 will drive electricity price spikes for our states' families and businesses.**

Treasury's proposed rule ensures that the large new electricity demand from electrolyzers is met, where and when it occurs, by new zero-carbon power that is not already powering homes and businesses. This is necessary to protect against power price spikes from hydrogen production. If MachH2 fails to meet proposed Treasury rules, hydrogen projects will significantly increase electricity prices for families and businesses in our states. Princeton's ZERO Lab found marked power price increases from hydrogen production absent the three pillars.<sup>9</sup>

Cryptomining offers a powerful precedent as, similar to electrolysis, it is a power-hungry process. Cryptomining, which is subject to minimal constraints and requirements, has increased utility bills by tens to hundreds of millions of dollars for households and businesses in upstate New York<sup>10</sup> and led to costly grid strains in Texas.<sup>11</sup> A massive cryptomining operation in

---

<sup>8</sup> See California Environmental Justice Alliance, Environmental Justice Groups Across the Country Issue Letter to the Department of the Treasury on Hydrogen Funding, <https://caleja.org/2023/11/ej-groups-letter-hydrogen-45v-tax-credit/>.

<sup>9</sup> Ricks, W., Xu, Q., & Jenkins, J. D. (2023). Minimizing emissions from grid-based hydrogen production in the United States. Zenodo, <https://zenodo.org/records/10041735>.

<sup>10</sup> Laura Counts, *Power-hungry cryptominers push up electricity costs for locals*, BerkleyHaas (Aug. 3, 2021), <https://newsroom.haas.berkeley.edu/research/power-hungry-cryptominers-push-up-electricity-costs-for-locals/>.

<sup>11</sup> Elizabeth Napolitano, *Texas paid bitcoin miner more than \$31 million to cut energy usage during heat wave*, CBS News (Sept. 7, 2023), <https://www.cbsnews.com/news/bitcoin-mining-cryptocurrency-riot-texas-power-grid/>.

Indiana has been linked to keeping the coal-fired Merom Generating Station online after its owner had initially promised to retire it.<sup>12</sup> The parallel threat posed by hydrogen production has been robustly documented<sup>13</sup> and has driven a large contingent of consumer groups in the U.S.—including the Illinois Public Interest Group and Citizens Action Coalition in Indiana—to urge the Biden administration to require the three pillars for all hydrogen projects seeking the 45V tax credit.<sup>14</sup>

It would be fundamentally unfair if the MachH2 hub—which would receive taxpayer-funded subsidies from both DOE and Treasury—drives up electricity prices and socializes the costs of increased electricity demand from hydrogen production on to all electricity customers, including low- and moderate-income homes. This would be at jarring odds with concerted efforts by our states to ensure affordable, clean power is available to our homes and businesses.

### **MachH2 is strongly positioned to succeed with the three pillars.**

We urge you to be skeptical of claims that the proposed 45V rules will hinder the success of MachH2. The overwhelming majority of studies<sup>15</sup>—by electrolyzer manufacturers, hydrogen and renewable developers, academics and independent research groups such as the Electric Power Research Institute<sup>16</sup> and Bloomberg New Energy Finance<sup>17</sup>—find three-pillar projects will be very cost-competitive from day one and conclude that the three pillars will support substantial clean hydrogen deployment. In fact, the proposed 45V rules were lauded<sup>18</sup> by a wide range of companies<sup>19</sup> spanning the hydrogen value chain who expressed confidence in the rules' ability to support a thriving, *truly* clean hydrogen industry.

The MachH2 hub is one of the best situated in the country, able to take advantage of excellent wind and solar resources in the Midwest.<sup>20</sup> With the anticipated buildout of new renewable energy in this region, the projects funded by the hub will have no difficulty procuring cost-competitive, new, hourly-matched power from the proposed deliverability zone to claim the 45V tax credit.

---

<sup>12</sup> Earthjustice, Cryptocurrency Mining in Indiana (Oct. 23, 2023), <https://earthjustice.org/feature/cryptocurrency-mining-indiana>.

<sup>13</sup> Energy Innovation, *Consumer Cost Impacts of 45V Rules*, <https://energyinnovation.org/wp-content/uploads/2023/11/Consumer-Cost-Impacts-of-45V-Rules-1.pdf>

<sup>14</sup> Letter from consumer advocates to White House and Treasury officials on 45V (Oct. 26, 2023), <https://www.citizen.org/wp-content/uploads/Consumer-Advocates-45V-Letter.pdf>.

<sup>15</sup> Ricks, W. & Jenkins, J. D. (2023). *The Cost of Clean Hydrogen with Robust Emissions Standards: A Comparison Across Studies*. Zenodo, <https://doi.org/10.5281/zenodo.7838873>.

<sup>16</sup> EPRI, *Impacts of IRA's 45V Clean Hydrogen Production Tax Credit* (Nov. 3, 2023), <https://www.epri.com/research/products/000000003002028407>.

<sup>17</sup> BloombergNEF, *US Hydrogen Guidance: Be Strict or Be Damned* (Sept. 21, 2023), <https://about.bnef.com/blog/us-hydrogen-guidance-be-strict-or-be-damned/>

<sup>18</sup> Treasury, *What They Are Saying: U.S. Treasury Department Framework Will Grow Clean Hydrogen Industry* (Dec. 22, 2023), <https://content.govdelivery.com/accounts/USTREAS/bulletins/381482f>.

<sup>19</sup> Hystor Energy, *Hydrogen Industry Support of Strong 45V Rules* (Dec. 20, 2023), <https://hystorenergy.com/hydrogen-industry-support-of-strong-45v-rules/>.

<sup>20</sup> RMI, *Explaining the Hydrogen Tax Credit Rules: A First Look With RMI*, <https://rmi.org/event/webinar-explaining-the-hydrogen-tax-credit-rules-a-first-look-with-rmi>.

**MachH2 must support and adhere to strong Treasury rules.**

We call on MachH2 leadership , as well as the administrations of Illinois, Indiana, and Michigan, to uphold the strong proposed Treasury rules and ensure that MachH2 adheres to them. This is necessary to build a *truly clean* hydrogen industry in our states, that would not irrevocably compromise our states' climate goals and harm our communities' environmental and economic well-being. In contrast, if MachH2 proceeds with supporting projects that fail to meet the three pillars, MachH2 can expect to face stiff opposition to its hub projects from our coalition and from communities that will bear the brunt of harmful, and avoidable, pollution.

We look forward to discussing our concerns with you at the earliest opportunity.

Sincerely,

Black Labor Week Project Inc.

Breathe Project

Carmel Green Initiative

Citizens Action Coalition of Indiana

Citizens Utility Board of Illinois

Clean Power Lake County

Climate Reality Chicago

Earthjustice

Environmental Defense Fund

Eco-Justice Collaborative

Faith in Place Action Fund

Fox Valley Citizens for Peace & Justice

Fox Valley Electric Auto Association

Freshwater Future

Gary Advocates for Responsible Development

Great Plains Action Society

Groundwork Northeast Revitalization Group

Hoosier Action

Illinois Clean Jobs Coalition

Illinois Environmental Council

Illinois People's Action  
Indiana Conservation Voters  
Indiana Environmental Clean Energy J40, Inc.  
Indiana Friends Committee on Legislation  
Industrious Labs  
Interfaith Power & Light  
Just Transition Northwest Indiana  
MADVoters  
Metro East Green Alliance  
Michigan League of Conservation Voters  
Midwest Environmental Justice Network  
Natural Resources Defense Council  
North Dakota Native Vote  
People for Community Recovery  
Prairie Rivers Network  
Respiratory Health Association  
Save Our Illinois Land (SOIL)  
Sierra Club Hoosier Chapter  
Sierra Club Illinois Chapter  
Sierra Club Michigan Chapter  
Solar United Neighbors of Indiana  
StraightUp Solar  
Third Act Illinois  
Union of Concerned Scientists  
Waub Ajijaak Press & Foundation  
We the People of Detroit  
We Want Green Too

Cc:

Office of Governor Pritzker

Office of Governor Holcomb

Office of Governor Whitmer

Neil Banwart, Chief Integration Officer, MachH2

Colleen Wright, Chief Strategy Officer, MachH2

Dr. Elizabeth Kocs, Equity Justice Officer, MachH2

Dr. Seth Snyder, Chief Commercialization and Policy Officer, MachH2

Jennifer Dunn, Chief Decarbonization Officer, MachH2