February 26, 2024

The Honorable Janet Yellen
Secretary of the Treasury
U.S. Department of the Treasury
1500 Pennsylvania Avenue NW
Washington, DC 20220

Mr. John Podesta
Senior Advisor to the President for Clean Energy Innovation and Implementation
The White House
1600 Pennsylvania Avenue NW
Washington, DC 20500

RE: Comment on Proposed Rule – Credit for Production of Clean Hydrogen, Election to Treat Clean Hydrogen Production Facilities as Energy Property

Dear Secretary Yellen and Senior Advisor Podesta,

Thank you for the opportunity to comment on the Draft Proposed Rule under Section 45V of the Inflation Reduction Act (IRA) (Draft Proposed Rule). California is grateful to the Biden Administration and the Department of Energy (DOE) for selecting California's Renewable Hydrogen Hub, led by the Alliance for Renewable Clean Hydrogen Energy Systems (ARCHES), to become one of seven federal hydrogen hubs. The United States Treasury (Treasury) and Internal Revenue Service (IRS) have solicited "comments on whether to provide an opportunity to demonstrate zero or minimal induced grid emissions through modeling or other evidence under specific circumstances," such as "regional grid characteristics" and "state policy," as an alternative pathway to show compliance with the rule (88 Fed. Reg. 89,220, 89,331). As the California agencies responsible for establishing, implementing, and enforcing greenhouse gas (GHG) emissions-reductions requirements under California state law, we submit these comments for your consideration.

Federal efforts to advance clean, renewable hydrogen and accelerate its deployment at scale are key to achieving California's goals to reduce GHG emissions 48 percent by 2030 and reaching net carbon neutrality by 2045.[1] [2] [3] The Draft Proposed Rule outlines important requirements, commonly called the "three pillars," designed to ensure that clean, renewable hydrogen production does not undercut climate policy by increasing GHG emissions. To that end, we appreciate the Draft Proposed Rule. We note, however, that they do not yet fully account for the State's clean energy mandates, planning and procurement process, which are aimed at achieving the same goals via alternate pathways. As such, an alternative compliance pathway is critical to the effective implementation of both federal and California state law.

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[1] California Health and Safety Code Section 38566
[2] California Health and Safety Code Section 38562.2
[3] California Air Resources Board, 2022 Scoping Plan Update - https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp_1.pdf

California Climate Policy and Leadership

For decades, California has championed policies that have significantly improved local air quality, and for nearly 20 years the State has led globally recognized policy initiatives focused on reducing in-state GHG emissions, while growing the economy.[4] [5] Most recently, the California Legislature passed and Governor Gavin Newsom signed Assembly Bill 1279 (Chapter 337, Statutes of 2022), which codified California's 2045 carbon-neutrality goal. This measure requires the State to achieve carbon-neutrality as soon as possible, but no later than 2045; to maintain net negative GHG emissions thereafter; and to require that by 2045, statewide anthropogenic GHG emissions be reduced at least 85 percent below 1990 levels.

Meeting this statutory goal involves a holistic suite of policies and advancements across all sectors of the economy, including the rapid production, deployment, and adoption of various clean technologies that maximize co-benefits, such as reducing local air pollution in low-income communities and communities of color, while ensuring the general affordability of consumer needs, goods and services. This suite of policies is outlined in California's 2022 Scoping Plan Update (Scoping Plan) which includes detailed, technologically feasible and cost-effective sector-by-sector decarbonization pathways to achieve the State's 2045 carbon-neutrality goal.[6]

One of the key strategies included in California's Scoping Plan is the production and consumption of clean, renewable hydrogen. The Scoping Plan projects the need to scale California's clean, renewable hydrogen market 1,700 times by 2045.[7] Success in rapidly scaling this new and emerging clean energy market hinges upon sustained federal support that recognizes the challenges of enabling a new market, while simultaneously establishing environmental safeguards that ensure the integrity of clean, renewable hydrogen production.

We appreciate the Draft Proposed Rule's focus on aligning renewable and zero-carbon electric generation with the electric consumption patterns of clean, renewable hydrogen production facilities. The Draft Proposed Rule prescribes one effective way to ensure that alignment: requiring incrementality, time matching, and deliverability. But, as the Draft Proposed Rule also recognizes, other existing approaches may already serve the same ends. For example, "if in a particular region, all generation—including imported generation—comes from minimal-emitting electricity generators, then increased load is unlikely to significantly increase induced grid emissions," and the "same may be true if a region is subject to a state or local policy that ensures that new load is met with minimal-emitting electricity generation." (88 Fed. Reg. 89,220, 89,231). We strongly agree with Treasury on this point; California's success in deploying record

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[4] California Air Resources Board, Fifty Year Air Quality Trend and Health Benefits - https://ww2.arb.ca.gov/sites/default/files/barcu/board/books/2018/020818/18-1-2pres.pdf

[5] California Air Resources Board, California's Greenhouse Gas Emission from 2000-2021: Trends of Emission and Other Indicators, pg. 9 - https://ww2.arb.ca.gov/sites/default/files/2023-12/2000_2021_ghg_inventory_trends.pdf

[6] California Air Resources Board, 2022 Scoping Plan Update - https://ww2.arb.ca.gov/resources/documents/2022- scoping-plan-documents

[7] California Air Resources Board, *2022 Scoping Plan Update*, pg. 8 - https://ww2.arb.ca.gov/sites/default/files/2023-04/2022-sp.pdf

amounts of renewable and zero-carbon electric generation, which in 2021 amounted to 59 percent of California's total retail electric sales, shows that an alternative compliance pathway would be appropriate for states that already have nation-leading renewable and zero-carbon electricity policies.[8]

California's Clean Electricity Progress

Over the last decade, California has codified increasing targets for the production and sale of renewable and zero-carbon electric generation. California currently has a Renewables Portfolio Standard requirement of 60 percent by 2030 and a statewide target of 100 percent of retail electricity sale from zero carbon resources by 2045.[9] These targets are driven by California's 2030 GHG emission reduction target and its 2045 carbon-neutrality goal and informed by its Scoping Plan. California's load-serving entities (LSEs) – electric investor-owned utilities, community choice aggregators, energy service providers and electric publicly owned utilities – are required to achieve these targets through California's Renewables Portfolio Standard (RPS) program and Integrated Resource Planning (IRP) process.[10]

Each California Retail Electricity Provider Will Procure Clean Resources to Serve the Incremental Load of Hydrogen Production

Going forward, the State is planning to develop at least 148,000 MW of new, incremental renewable and zero-carbon electric resources by 2045.[11] Furthermore, the California Public Utilities Commission (CPUC) recently approved its IRP preferred system plan, which projects renewable and zero-carbon electricity production beyond the targets noted above of 101 percent by 2035, 105 percent by 2040 and 113 percent by 2045.[12] The CPUC-jurisdictional LSEs, who procure electricity and capacity for roughly 75 percent of California's electric retail load, are required to follow this plan as they embark on their procurement responsibilities. These targets are based on the regularly developed and updated long-term electric demand forecasts produced by the California Energy Commission and included in the annual Integrated Energy Policy Report.[13] These forecasts serve as the foundation for electric grid planning and electric resource procurement in California and include electric demand across all electric customer classes and loads. California is forecasting increasing electricity demand in sectors like transportation and buildings with the growth in electrification and has incorporated this growth into electric procurement requirements and will do the same in other demand growth areas. This would include any clean, renewable hydrogen

[8] California Energy Commission, Estimated Annual Clean Energy - https://www.energy.ca.gov/programs-and-topics/topics/renewable-energy/clean-energy-serving-california/estimated-annual-clean
[9] California Public Utilities Code Sections 399.11 and 454.53
[10] California Public Utilities Code Sections 399.11, 399.30 and 454.52
[11] California Governor's Office, *Building the Electricity Grid of the Future: California's Clean Energy Transition Plan,* May 25, 2023, pg. 7 - https://www.gov.ca.gov/wp-content/uploads/2023/05/CAEnergyTransitionPlan.pdf
[12] California Public Utilities Commission, *Decision Adopting 2023 Preferred System Plan and Related Matters, and Addressing Two Petitions for Modification*, February 15, 2024, pg. 75 - https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M525/K918/525918033.PDF
[13] California Energy Commission, 2023 Integrated Energy Policy Report - file:///C:/Users/gmack/Downloads/TN254463_20240214T142545_Adopted%202023%20Integrated%20Energy%20Policy%20Report%20with%20Errata%20(1).pdf

production facility interconnected to the electric grid. Accordingly, the incremental load for clean, renewable hydrogen production in California will be served by clean energy resources. In addition, California's rules governing electricity procurement require California retail electricity providers to ensure deliverability of resources to meet any increased load. Thus, California's electricity procurement system already accounts for deliverability for any new load – including for new clean, renewable hydrogen production connected to the grid.

Importantly, renewable hydrogen production connected to the State's electric grid will have the added benefit of spreading out fixed electric infrastructure costs across more customers and electric retail sales, which can help reduce electric rates for all customers, thereby reducing, to a degree, the electric cost burden on lower-income customers and those living in disadvantaged communities. Additionally, hydrogen production facilities would provide a critical new resource in the State's demand response portfolio because the hydrogen production load could be reduced to relieve stress on the grid when overall load is highest, such as during west wide heat waves.

Request for an Alternative Compliance Pathway

As stated earlier, we support the GHG emissions-reductions goals that are served by the incrementality, time-matching and deliverability requirements in the Draft Proposed Rule. However, we urge Treasury and the IRS to add an alternative compliance pathway that accounts for a state's mandated clean energy targets to support production of hydrogen. Therefore, we urge the IRS to adopt an alternative compliance pathway for states with mandated clean energy targets that effectively aligns the purpose underlying the "three pillars" with the realities of the State's electric grid to help foster the deployment of economical, low-carbon intensive clean, renewable hydrogen production. Our agencies stand ready to work with the Treasury and the IRS in that effort.

As noted above, connecting clean, renewable hydrogen projects to the electric grid has multiple benefits and is consistent with California's climate and clean electricity future. The ARCHES system includes pivotal projects that utilize electric grid power. ***We are concerned that without an alternative compliance pathway, California will not receive the GHG emission reduction and cost benefits that electric grid connected clean, renewable hydrogen projects would achieve***.

Although removing electric grid connected projects would yield some modest near-term GHG emissions benefits on the production side, it would yield a disproportionately high increase in GHG emissions on the end-use side. To translate this into the proposed ARCHES 2030 system, under the Draft Proposed Rule and based on geographic optimization, California's shipping Ports would lose access to approximately 30 tonnes of clean, renewable hydrogen per day. This is equivalent to continuing to emit a net of 530 tonnes of avoidable GHG emissions *daily* – the carbon equivalent of continuing to burn over 52,000 gallons of diesel every day – just in the ports.[14]
In determining an alternate compliance pathway, we request that IRS take into account that:

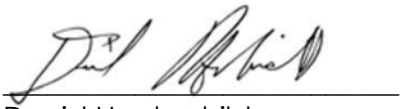
[14] https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator

- Any new load added on the electric grid in California will be served only with new renewable and zero carbon resources that will be added to the electric grid.
- Electric grid connected clean, renewable hydrogen production will serve multiple benefits including, reducing current levels of clean electricity curtailment, maximizing ratepayer benefits and leveraging state planning and procurement processes that incorporate existing electric infrastructure and land use constraints. As such, an LSE serving this new load is best suited to procure the necessary electricity for the clean, renewable hydrogen production facility. In addition, all LSEs must ensure deliverability for any new loads.
- Existing electric rate and wholesale power market structures in California will fundamentally maximize the sourcing of electricity for these facilities to align with times when renewable and zero-carbon electric generation is available.
- The clean, renewable hydrogen production facility's electricity demand will be fully accounted for in the state's electric system planning regime, including applicable system-level, state-mandated time-matching and deliverability requirements.

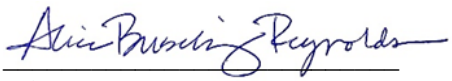
In conclusion, we, once again, express our appreciation to the Biden Administration for its leadership in catalyzing the growth of a national clean, renewable hydrogen market. We look forward to further collaboration to maximize and optimize the Section 45V tax credit to yield economically viable clean, renewable hydrogen production projects in California and throughout the country.

Thank you for your consideration,

Liane Randolph
Chair, California Air Resources Board (CARB)



David Hochschild
Chair, California Energy Commission (CEC)



Alice Reynolds
President, California Public Utilities Commission (CPUC)

Dee Dee Myers
Senior Advisor to the Governor
Director, Governor's Office of Business and Economic Development (GO-Biz)