

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking to Adopt
Biomethane Standards and Requirements,
Pipeline Open Access Rules, and Related
Enforcement Provisions

Rulemaking 13-02-008
(Filed February 13, 2013)

**COMMENTS OF THE GREEN HYDROGEN COALITION, THE NATIONAL FUEL
CELL RESEARCH CENTER, AND THE CALIFORNIA HYDROGEN BUSINESS
COUNCIL ON THE PROPOSED DECISION DIRECTING BIOMETHANE
REPORTING AND DIRECTING PILOT PROJECTS TO FURTHER EVALUATE AND
ESTABLISH PIPELINE INJECTION STANDARDS FOR RENEWABLE HYDROGEN**

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In accordance with the Rules of Practice and Procedure of the California Public Utilities Commission (“Commission”), the Green Hydrogen Coalition (“GHC”), the National Fuel Cell Research Center (“NFCRC”), and the California Hydrogen Business Council (“CHBC”) (together “Joint Parties”) hereby submit comments on the *Proposed Decision Directing Biomethane Reporting and Directing Pilot Projects to Further Evaluate and Establish Pipeline Injection Standards for Renewable Hydrogen* (“PD”), issued on November 10, 2022, by Commissioner Rechtschaffen.

I. INTRODUCTION

The GHC is a California educational 501(c)(3) non-profit organization. The GHC was formed in 2019 to recognize the game-changing potential of "green hydrogen" to accelerate multi-sector decarbonization and combat climate change. GHC's mission is to facilitate policies and practices that advance green hydrogen production and use in all sectors of the economy to accelerate a carbon-free energy future and a just energy transition. Our sponsors include renewable energy

users and developers, utilities, and other supporters of a reliable, affordable green hydrogen fuel economy for all.

The NFCRC facilitates and accelerates the development and deployment of fuel cell technology and systems; promotes strategic alliances to address the market challenges associated with the installation and integration of fuel cell systems; and educates and develops resources for the decarbonization of power and energy storage sectors. The NFCRC was established in 1998 at the University of California, Irvine (“UCI”) by the U.S. Department of Energy and the California Energy Commission to develop advanced sources of power generation, transportation and fuels and has overseen and reviewed thousands of commercial fuel cell applications.

The CHBC is a 501(c)(6) non-profit organization comprised of over 135 companies and agencies involved in the business of hydrogen. The CHBC’s mission is to advance the commercialization of hydrogen in the energy sector, including transportation, goods movement, and stationary power systems, to reduce emissions and help the state meet its decarbonization and air quality goals. CHBC enhances market commercialization through effective advocacy and education of policymakers directly and through coalition building.

The Joint Parties commend the Commission for its PD since it is an important step in developing a hydrogen economy in California. In the following comments, the Joint Parties (1) ask the Commission to adopt an interim hydrogen blending standard of $\leq 5\%$ blend by volume, (2) support many components of the interim hydrogen definition but believe it is important to provide consistency between proceedings and conform to federal CI standards to determine eligibility, and (3) urge the Commission to remove the pilot program application from this Decision and address the pilot programs in the recently submitted Application (A.) 22-09-006.

II. THE COMMISSION SHOULD ADOPT AN INTERIM HYDROGEN BLENDING STANDARD OF \leq 5% BLEND BY VOLUME IN THE FINAL DECISION

As the hydrogen economy emerges in California, the Commission should take steps to support the market's growth safely and reliably without impeding progress. When considering the rigorous research conducted on blending at \leq 5%,¹ and the reality that the creation of a robust hydrogen pipeline backbone will require both short- and long-term planning, the Joint Parties believe that the actions set forth in this proposed decision should not distract the Commission from the implementation of \leq 5% by volume blending standard. Since analyses and studies have been completed, we implore the Commission to act expeditiously on the results, especially when considering that five years have passed under this proceeding.

Creating a safe, but low, blending standard will immediately accelerate California's renewable hydrogen production capability because it will enable production projects to have an already funded transport and storage infrastructure to rely on. This standard is essential to removing barriers to access to the common carrier pipeline. Even a small blending target for renewable hydrogen will generate a significant market signal to attract development and investment to advance California's renewable hydrogen vision. It will also significantly improve California's competitiveness in the Department of Energy's ("DOE")'s Regional Clean Hydrogen Hubs program (H2Hubs).² Creating a safe, but low, blending standard will also immediately help to decarbonize California's existing natural gas system, helping to advance progress toward economy-wide decarbonization.

¹ See the [Hydrogen Blending Impacts Study](#) conducted by the University of California, Riverside.

² See <https://www.energy.gov/oced/regional-clean-hydrogen-hubs>

Current funding and support from the federal government³ and California’s legislature⁴ for the development of hydrogen infrastructure positions California to produce, store, and eventually transport hydrogen in mass volumes. To make this come to fruition, the Commission can immediately support these efforts by supporting all forms of progress on the hydrogen front. However, to do so, California will need an interim blending standard that will allow the utilities to begin the process and thereby help the State establish a competitive hydrogen economy. For this reason, the Joint Parties ask the Commission to adopt an interim hydrogen blending standard of ≤ 5% blend by volume in the final Decision.

III. THE JOINT PARTIES SUPPORT MANY COMPONENTS OF THE INTERIM HYDROGEN DEFINITION BUT BELIEVE IT IS IMPORTANT TO PROVIDE CONSISTENCY BETWEEN PROCEEDINGS AND CONFORM TO FEDERAL CI STANDARDS TO DETERMINE ELIGIBILITY

a. Components of the Interim Hydrogen Definition the Joint Parties Support.

The Joint Parties support the PD’s adoption of the interim hydrogen standard of a well-to-gate lifecycle GHG emissions rate that is not greater than 4 kilograms of CO₂e per kilogram of hydrogen produced since it remains consistent with the Inflation Reduction Act (“IRA”) eligibility criteria for the hydrogen PTC. We believe the Commission’s decision to align with federal requirements will create continuity between state and federal goals and lay the groundwork for using hydrogen to reach national and state GHG reduction targets. The proposed definition, by focusing on the well-to-gate carbon intensity, will also provide a level playing field from which

³ See the U.S. Department of Energy [Regional Clean Hydrogen Hubs program](#), which includes funding through the [Infrastructure Investment and Jobs Act \(IIJA\)](#).

⁴ See [CA Assembly Bill 157](#); See [CA Assembly Bill 179](#); See [CA Assembly Bill 209](#); See [CA Senate Bill 1075 \(Skinner\)](#).

the Commission can evaluate a diverse range of feedstocks and process energy and station power inputs for hydrogen production.

Second, we support the Commission's added requirement that hydrogen must be produced from non-fossil fuel feedstock and process energy sources, provided it is enforced by calculating the specific well-to-gate carbon intensity of any hydrogen project.

b. The Commission Should Provide Consistency Between its Proceedings and Change the Nomenclature in this Proceeding From "Renewable Hydrogen" to "Clean Hydrogen."

The Joint Parties note that the Angeles Link Memorandum Account Proceeding (A.22-02 007) proposes a "clean hydrogen" definition that is uniform with the "renewable hydrogen" definition proposed in this PD. However, we believe the term "clean hydrogen" better represents the proposed definition criteria in both PDs. Therefore, we ask that the Commission provide consistency between its proceedings and revise the nomenclature in this proceeding from "renewable hydrogen" to "clean hydrogen."

c. Enforcement of the Federal 4kg CO₂e/kgH₂ Requirement is Essential to Encouraging Innovation and Ensuring Progress Toward California's Ambitious Energy and Decarbonization Goals.

There are an unlimited number of combinations and pathways for the production of hydrogen from non-fossil fuel feedstocks and energy sources. For example, an electrolytic hydrogen production project could be co-located with solar generation for production during the day and utilize some grid power at night to improve its capacity factor or provide ancillary services to the grid as a highly modifiable load. Under the Commission's proposed definition, this electrolytic hydrogen project's resulting hydrogen production should only be classified as "clean hydrogen" if the well-to-gate lifecycle carbon intensity does not exceed 4kgCO₂e/kgH₂ produced.

It is important to remember that there are many pathways to produce hydrogen from non-fossil fuel feedstocks, and all these pathways will all require process energy and station power. Allowing projects to use some non-renewable inputs – so long as the cumulative amount still falls below the required 4kgCO₂e/kgH₂ produced – would enable project innovation and the realization of system-level benefits.

We ultimately propose that the Commission adopts the following interim definition (*see below*) for “clean hydrogen.” This proposed definition encompasses critical components the Joint Parties support: (1) inclusion of a CI threshold, (2) adoption of a well-to-gate lifecycle assessment, (3) the enforceability of non-fossil fuel feedstock and process energy based on achieving less than 4kgCO₂e/kgH₂ produced.

“Clean Hydrogen is hydrogen which is produced from non-fossil fuel feedstocks and process energy sources that result in a lifecycle (i.e., well-to-gate) GHG emissions rate of not greater than 4 kilograms of CO₂e per kilogram of hydrogen produced.”

With the Commission’s adoption of this proposed interim definition, the Commission can help set California up for integration with the federal clean hydrogen strategy, interstate connectivity, and regional market development.

IV. THE COMMISSION’S REQUEST FOR A JOINT IOU PILOT PROGRAM APPLICATION SHOULD BE STRUCK FROM THIS DECISION AND ADDRESSED WITHIN APPLICATION A.22-09-006

First and foremost, the Joint Parties support the Commission’s request for the Joint IOU application proposing pilot programs to test hydrogen blending in natural gas pipelines. As the

Joint Parties stated in opening comments, we believe demonstrations and pilot programs that test hydrogen blending in California's natural gas pipelines will be integral to decarbonizing the State.⁵

The Joint Parties believe pilot programs are integral to answering technical questions about blending above 5% by volume and should also be expedited. Furthermore, we believe they will play a critical role in gathering operational data and experience for the long-term goal of blending at higher percentages to support the State's climate and air quality goals. However, the Joint Parties believe the pilot programs should not stall progress on other critical areas, such as implementing an interim hydrogen blending standard of $\leq 5\%$ blend by volume. Implementing a safe standard for blending low percentages of hydrogen into existing natural gas infrastructure is critical for achieving short-term goals and maintaining long-term competitiveness. It will also position the Commission to be ready to ratchet up an interim standard of $\leq 5\%$ by volume when data from these pilot programs outline pathways to higher blending percentages.

However, the Joint Parties believe that the Commission's request for a joint IOU pilot program application within Rulemaking (R.) 13-02-008 may not be the most efficient pathway since the utilities have recently submitted an Application (A.22-09-006)⁶ for hydrogen blending demonstration projects. The pilot programs proposed in this PD would be better addressed under A. 22-09-006 since this proceeding is exclusively focused on utility pilot program efforts. The Commission could simply take the provisions in this PD that were not addressed in Utilities'

⁵ See ["Comments Of The National Fuel Cell Research Center, Green Hydrogen Coalition, And California Hydrogen Business Council To The Administrative Law Judge's Ruling Seeking Comments Regarding Continued Biomethane Procurement Reporting And Regarding UC Riverside Safe Hydrogen Injection Study."](#)

⁶ See [Application](#).

original application and require modifications prior to approval. For these reasons, we ask the Commission to remove the pilot programs from this PD and address this effort in A. 22-09-006.

V. CONCLUSION

The Joint Parties appreciate the opportunity to submit these comments and look forward to collaborating with the Commission and stakeholders in this proceeding.

Respectfully submitted,

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