

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

Order Instituting Rulemaking to
Continue Electric Integrated Resource
Planning and Related Procurement
Processes.

Rulemaking 20-05-003
(Filed on May 7, 2020)

**COMMENTS OF THE GREEN HYDROGEN COALITION ON THE PROPOSED
DECISION ADOPTING 2021 PREFERRED SYSTEM PLAN**

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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") hereby submits these comments on the *Proposed Decision Adopting 2021 Preferred System Plan* ("PD"), issued by Administrative Law Judge ("ALJ") Julie Fitch on December 22, 2021.

I. INTRODUCTION.

GHC¹ is a California educational 501(c)(3) non-profit organization. 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. Our sponsors include renewable energy users and developers, utilities, and other supporters of a reliable, affordable green hydrogen fuel economy for all.

¹ <https://www.ghcoalition.org/>

GHC defines green hydrogen as hydrogen produced from non-fossil fuel resources and has climate integrity – emits zero or de minimis² greenhouse gases on a lifecycle basis. Green hydrogen can be used as a fuel for electricity production and a means for long-duration storage for multi-day and seasonal needs. In addition, once scaled, green hydrogen can help California move away from fossil fuel use in other applications such as transportation, industrial, maritime, and aviation. Considering that hydrogen is a mainstream commodity that can be utilized in many applications across many sectors of the economy, the production and use of green hydrogen will be essential to decarbonize sectors beyond electricity, further enabling the attainment of our climate goals.

GHC applauds the Commission for considering "renewable hydrogen" in its 2021 Preferred System Plan. While the Commission decided not to include renewable hydrogen in its procurement portfolio, GHC believes the hydrogen dialog in this proceeding sets the stage for future opportunities. GHC provides the following comments on the Commission's proposal regarding defining renewable hydrogen.

II. COMMENTS ON PD

Should the Commission be Inclined to Adopt a Renewable Hydrogen Definition in this Decision, the Commission Should Base Renewable Hydrogen Eligibility on a Carbon Intensity Framework

In the PD, the Commission proposes to adopt the "renewable hydrogen" definition consistent with Decision (D.) 21-06-005 in the Self-Generation Incentive Program ("SGIP").³

² "De minimis" means an insignificant amount of non-renewable energy resources (does not exceed 10 percent of the total energy inputs) allowed to be counted as RPS-eligible. See Green, Lynette, Christina Crume. 2017. Renewables Portfolio Standard Eligibility Guidebook, Ninth Edition. California Energy Commission, Publication Number: CEC-300-2016-006-ED9-CMFREV.

³ PD, at 163.

GHC notes that this Decision did not definitively define renewable hydrogen but identified the types of renewable hydrogen that would be eligible for SGIP incentives. GHC appreciates this distinction but is concerned that the eligibility considerations set forth by this Decision are overly restrictive and burdensome. Adopting this limiting definition could stifle the growth of the hydrogen market in California and may impede California's ability to work toward decarbonization with neighboring states interconnected to California's electric grid and natural gas system.

The Commission should base hydrogen eligibility on a carbon intensity ("CI") framework rather than adopting the renewable hydrogen criteria outlined in D.21-06-005. CI is defined as a fuel's lifecycle greenhouse gas emissions per unit of fuel or energy delivered. A CI framework accounts for lifecycle emissions (well-to-gate), not just those emitted when the fuel is consumed at its end-use. The CI of hydrogen can be measured in kilograms of CO₂e per kilogram of hydrogen, where for any quantity and type of greenhouse gas, CO₂e signifies the amount of CO₂ which would have the equivalent global warming impact.⁴ A CI framework is technology-agnostic, as it only considers the lifecycle emissions from the hydrogen source. As a result, the door is open for competition to flourish so long as the hydrogen in question can meet the desired lifecycle emissions threshold.

Defining eligible hydrogen based on CI is already taking shape in, but is not limited to, British Columbia,⁵ the European Union,⁶ and the United States. For example, the recent United States Infrastructure Investment and Jobs Act ("Infrastructure Bill") defines qualified "clean

⁴[https://www.eia.gov/environment/emissions/carbon/#:~:text=Carbon%20intensity%20\(energy%20supply\)%3A,the%20emissions%20coefficient%20are%20identical.](https://www.eia.gov/environment/emissions/carbon/#:~:text=Carbon%20intensity%20(energy%20supply)%3A,the%20emissions%20coefficient%20are%20identical.)

⁵https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/electricity-alternative-energy/electricity/bc-hydro-review/bc_hydrogen_strategy_final.pdf

⁶<https://www.insideenergyandenvironment.com/2021/04/the-european-commission-approves-the-eu-criteria-on-sustainable-hydrogen-activities/>

hydrogen" as "hydrogen produced with a CI equal to or less than 2 kilograms of CO₂e per kilogram of hydrogen."⁷ This bill also directs the Department of Energy ("DOE") in consultation with the Environmental Protection Agency ("EPA") to develop an initial standard for the CI of clean hydrogen production. This standard will create a rigorous framework for evaluating the lifecycle emissions of hydrogen production pathways and robust measurement and verification, and reporting structures. The purpose of the standard is to create a uniform national framework to increase the cleanest hydrogen development and deployment.⁸

Another CI framework example is the California Air Resources Board's ("CARB") Low Carbon Fuel Standard ("LCFS"). The LCFS sets annual CI standards to reduce the CI of the transportation fuel used in California by at least 20 percent by 2030. The LCFS lets the market determine which mix of hydrogen will be used to reach the program targets and does not preclude production pathways or feedstocks if it is equal to or lower than the carbon threshold. The LCFS has proven to be one of the essential Assembly Bill ("AB") 32 measures to reduce greenhouse gas emissions in California and has provided other significant benefits – it transforms and diversifies the fuel pool in California to reduce petroleum dependency and achieves air quality benefits, which are State priorities that preceded AB 32.

The Commission has a unique opportunity to take a similar approach and adopt its own CI framework for renewable hydrogen specifically for integrated resource planning ("IRP"). The Commission can use the examples illustrated above to inform best practices and lessons learned and develop a CI framework particular to the Commission's IRP needs. Developing and adopting such a framework would explicitly allow the Commission to exclude the use of fossil resources

⁷ United States' Infrastructure Investment and Jobs Act. Sec. 822.

⁸ Ibid.

and allow for the possibility for technological innovation to flourish, enabling new pathways to produce renewable hydrogen to be considered, so long as they have climate integrity (e.g., emits zero or de minimis amounts of greenhouse gases on a lifecycle basis). Encouraging such innovation will, by definition, increase competition, and foster greater private hydrogen investment for the benefit of California ratepayers.

Overall, GHC submits that the Commission's proposal to adopt the "renewable hydrogen" definition in D.21-06-005 carries a risk to hydrogen investments that may complicate decarbonizing California's economy. To that end, should the Commission be inclined to adopt a renewable hydrogen definition in this Decision, the Commission should direct the development of a CI framework to define renewable hydrogen eligibility.

III. CONCLUSION.

GHC appreciates the opportunity to submit these comments to the PD and looks forward to working with the Commission and stakeholders in this Rulemaking.

Respectfully submitted,

/s/ Nicholas Connell

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Policy Director

GREEN HYDROGEN COALITION

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