



December 15, 2022

Email to: docket@energy.ca.gov

Docket Number: [22-ERDD-03](#)

Subject: Clean Hydrogen Program

Re: Comments of the GHC on the CEC's Staff Workshop on the Implementation of the Clean Hydrogen Program

To Whom it May Concern:

The Green Hydrogen Coalition ("GHC")¹ appreciates the opportunity to submit comments on the Clean Hydrogen Program ("CHP").² The GHC also appreciates the California Energy Commission's ("CEC") recognition that California will need clean hydrogen for reliability and deep decarbonization, as well as its progressive, forward-thinking leadership for California's clean energy transition.

I. INTRODUCTION.

The GHC 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 foundations, renewable energy users and developers, utilities, and other supporters of a reliable, affordable green hydrogen fuel economy for all.

The GHC applauds the CEC on the development of the CHP as well as the Staff Presentation to discuss the Program's implementation. We also appreciate the immediacy of the CHP's proposed funding schedule. In the following sections, we provide our comments and recommendation on how to administer the CHP to ensure the cleanest hydrogen projects are awarded under this program. These comments and recommendation are in line with the CEC's

¹ See <https://www.ghcoalition.org/>

² See <https://www.energy.ca.gov/event/workshop/2022-12/staff-workshop-implementation-clean-hydrogen-program>

ability to “establish project eligibility and other guidelines” under Assembly Bill 209.³ Since the CEC has such authority, we encourage the CEC to leverage it to ensure the CHP is as robust and sustainable as possible.

II. COMMENTS.

- **CHP eligibility should be based on a carbon intensity framework using a well-to-gate lifecycle analysis.**

The GHC maintains that implementing a carbon-intensity (“CI”) framework using a well-to-gate lifecycle analysis (“well-to-gate LCA”) is essential for determining CHP project eligibility. For the purposes of this discussion, the GHC defines a “CI framework” as the quantitative methodology that calculates the amount of CO₂ emissions emitted per unit of hydrogen produced. The precise measurements of hydrogen's carbon intensity can more accurately reflect the environmental impacts of a given kilogram of hydrogen produced and overcome the limitations of the "color coding" model (*green, blue, grey, brown, etc.*). Secondly, the GHC defines a “well-to-gate LCA” based on the International Partnership for Hydrogen and Fuel Cells in the Economy’s methodology for determining the greenhouse gas (“GHG”) emissions associated with the production of hydrogen.⁴

Together, a CI framework with a well-to-gate LCA approach is crucial since it accounts for the climate impacts associated with hydrogen production, including emissions onsite and upstream. This helps reduce market misrepresentations by accurately capturing the true GHG emissions of hydrogen production, thereby facilitating the development of a credible clean hydrogen market.

The GHC further supports the inclusion of a CI framework since it is a technology neutral approach. By focusing on carbon emissions, rather than technology types, to prioritize hydrogen solutions, this approach would be inclusive of all non-fossil fuel feedstock hydrogen pathways. This not only creates incentives to reduce emissions – and thereby generate progress towards the

³ See https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=202120220AB209

⁴ See <https://www.iphe.net/iphe-wp-methodology-doc-nov-2022>

State’s emissions reduction goals – but also helps spur the innovation for cleaner technologies. The GHC supports taking this perspective since it opens other pathways for competition on the basis that hydrogen, regardless of how it is produced, can flourish if it meets the desired emissions threshold. As a result, we believe structuring the CHP in this way will help avoid the creation of technology winners and losers, as well as the discrimination that it may engender.

Furthermore, the implementation of a CI framework with a well-to-gate LCA in the CHP would align with federal legislation, thereby creating continuity between state and national policies. Most notably, this approach would align with the 2022 Inflation Reduction Act, which creates a hydrogen production tax credit (“PTC”) based on a carbon intensity framework with a well-to-gate LCA.⁵ The most noteworthy element of the PTC is that it generates credits that benefit incrementally lower CI targets, which will help generate the momentum needed to get the clean hydrogen market off the ground. The GHC believes that, by following a similar CI framework, the CEC can help align California with the emerging national market. Specifically, we believe the CEC should focus the CHP on hydrogen that has a CI no greater than 4 kilograms of CO₂e per kilogram of hydrogen produced. By employing similar standards as the federal government, we believe the CEC can help limit barriers to entry and lower the administrative burden at both the state and national levels.

III. RECOMMENDATION.

- **The CEC’s CHP should adopt the GHC’s definition of “clean hydrogen.”**

The GHC’s definition of “clean hydrogen” is inclusive of the following critical elements: (1) CI threshold, (2) well-to-gate LCA, and (3) non-fossil fuel feedstock. We believe this “clean hydrogen” definition should be used for the purposes of CHP and be defined in the following way:

“Clean Hydrogen is hydrogen which is produced from non-fossil fuel feedstocks and secondary energy inputs 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.”

⁵ See <https://www.congress.gov/bill/117th-congress/house-bill/5376/text>

