

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking Regarding
Policies, Procedures and Rules for the
Self-Generation Incentive Program and Related
Issues.

R. 20-05-012
(Filed May 28, 2020)

**COMMENTS OF THE CALIFORNIA HYDROGEN BUSINESS COUNCIL
ON ORDER INSTITUTING RULEMAKING REGARDING POLICIES, PROCEDURES
AND RULES FOR THE SELF-GENERATION INCENTIVE PROGRAM AND
RELATED ISSUES**

Bill Zobel
Executive Director
California Hydrogen Business Council
18847 Via Sereno
Yorba Linda, CA 92866
310-455-6095
wzobel@californiahydrogen.org

June 29, 2020

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking Regarding
Policies, Procedures and Rules for the
Self-Generation Incentive Program and Related
Issues.

R. 20-05-012
(Filed May 28, 2020)

**COMMENTS OF THE CALIFORNIA HYDROGEN BUSINESS COUNCIL
ON ORDER INSTITUTING RULEMAKING REGARDING POLICIES, PROCEDURES
AND RULES FOR THE SELF-GENERATION INCENTIVE PROGRAM AND
RELATED ISSUES**

I. Introduction

The California Hydrogen Business Council (CHBC)¹ appreciates the opportunity to provide comments on the Order Instituting Rulemaking Regarding Policies, Procedures and Rules for the Self-Generation Incentive Program and Related Issues (SGIP OIR), filed on May 28, 2020. Our comments can be summarized as follows:

- a. The CHBC appreciates that the SGIP OIR includes consideration of program revisions to incorporate increased use of green electrolytic hydrogen fuel cells, in order to implement SB 1369.**
- b. To be fully useful, this development needs to be accompanied by establishing regulatory frameworks at the PUC that encourage green electrolytic hydrogen production.**
- c. The rulemaking should be expanded to also include fuel cells that use renewable hydrogen made from organic waste pathways.**

¹ The CHBC is comprised of over 100 companies and agencies involved in the business of hydrogen. Our mission is to advance the commercialization of hydrogen in the energy sector, including transportation, goods movement, and stationary power systems to reduce emissions and dependence on oil. The views expressed in these comments are those of the CHBC, and do not necessarily reflect the views of all of the individual CHBC member companies. CHBC Members are listed here: <https://www.californiahydrogen.org/aboutus/chbc-members/>

- d. This rulemaking should be considered a beginning, not an endpoint to implementing SB 1369 because a broader and more long term regulatory framework is needed to realize the potential benefits of green electrolytic hydrogen, like long duration storage, power generation outside the scope of this rulemaking (e.g. thermal power plants, microgrids), and zero emissions transportation fuel.**

II. Comments

- a. The CHBC appreciates that the SGIP OIR includes consideration of program revisions to incorporate increased use of green electrolytic hydrogen fuel cells, in order to implement SB 1369.**

The incorporation of green electrolytic hydrogen fuel cells into the SGIP is a step toward encouraging adoption of this zero-emissions, zero greenhouse gas solution for onsite generation, which can improve resiliency without sacrificing air quality and climate protection. Fuel cells that use green electrolytic hydrogen, or hydrogen made via other low and zero carbon methods, present an immediate pathway to cut or eliminate greenhouse gas emissions across the lifecycle of fuel cells, enabling California to advance its carbon and short-lived climate pollutant (SLCP) reduction targets, along with its resilience and clean air goals.

Currently, conventional fossil fuel combustion generators are on the rise to cope with Public Safety Power Shutoffs (PSPS) and unplanned outages due to disasters like wildfire,² which heighten air quality problems that threaten to be particularly deleterious in the age of COVID-19. Fuel cell systems emit zero criteria air pollutants, are commercially available, and have been deployed for years. Fuel cells that can run on stored hydrogen that is scalable to the required runtime have been commercially deployed since the early 2000s. By supporting green electrolytic hydrogen to be used in fuel cell implementation, the SGIP can help take the benefits of hydrogen fuel cells to a new level by ensuring they are also on a pathway to becoming greenhouse free well to wheel.

² <https://www.nbcnews.com/business/business-news/california-burns-generator-companies-make-power-grab-n1076611>

b. To be fully useful, incorporating green electrolytic hydrogen fuel cells in the SGIP needs to be accompanied by regulatory frameworks at the PUC that encourage green electrolytic hydrogen production.

Inclusion of green electrolytic hydrogen as a fuel in the SGIP is a welcome step that will only be effective if there is a market for green electrolytic hydrogen production. While California is a prime location for such a market with its abundant renewable power resources and 100% zero carbon retail electricity sales target, as well as SB 1369's mandated consideration of green electrolytic hydrogen for storage and other benefits, the state has yet to create regulatory frameworks that support production of electrolytic hydrogen at a scale to make it economically viable. Allowing green electrolytic hydrogen in the SGIP without supporting a market for the fuel risks having a hollow effort.

Numerous analysts, such as Bloomberg New Energy Finance,³ HSBC,⁴ among others, agree that green electrolytic hydrogen has the potential to become cost competitive in several applications in the foreseeable future, due to the plummeting cost of renewable electricity. They also point out that getting there also requires policies and regulations to support the long-term, large-scale investment needed to achieve mass production and the accompanying cost reductions. Although other clean energy technologies, like solar and battery energy storage, have benefitted from several regulatory proceedings and multi-billion dollar funding dedicated to their advancement in California, green electrolytic hydrogen has yet to be similarly treated.

Other governments around the world with progressive climate and renewable energy policies are setting targets, enacting policies and committing significant funding to encourage electrolytic hydrogen development, which they view as essential to achieving carbon neutrality, integrating high penetrations of renewable generation, and building a green workforce and economy. Germany, for example, recently announced as part of its national hydrogen strategy that it aims to scale electrolysis to 5,000 MW by 2030 and 10,000 MW by 2035 or 2040.⁵ To back up these targets, the government also recently pledged 9 billion euros for the green hydrogen piece of

³ <https://data.bloomberglp.com/professional/sites/24/BNEF-Hydrogen-Economy-Outlook-Key-Messages-30-Mar-2020.pdf>

⁴ *Global Hydrogen – Why the Journey from Grey to Green is Taking Off*, Sean McLoughlin, HSBC; January 2020

⁵ <https://www.cleanenergywire.org/factsheets/germanys-national-hydrogen-strategy>

their national stimulus package⁶ and previously allocated 2.7 billion euros to develop green hydrogen.⁷ The European Union is planning a €30 billion funding package to accelerate electrolyzer-based hydrogen as a pillar of their green economic recovery package, along with “contract for difference” policy to bridge the gap between the cost of conventional hydrogen and electrolytic hydrogen with a guarantee to pay the difference between the CO2 strike price and CO2 carbon trade market price.⁸ We encourage California to take such bold steps to support a green hydrogen market in California, which will enable the deployment of renewable fuel cells in the SGIP and far beyond for the many other, broader applications of this clean fuel.

c. The rulemaking should be expanded to also include fuel cells that use renewable hydrogen made from organic waste pathways.

While green electrolytic hydrogen holds many benefits and great potential to achieve scale, there are other methods to produce decarbonized hydrogen, including steam methane reformation of biogas produced from organic waste and gasification of biomass, which Lawrence Livermore National Laboratory finds is the most cost-effective way to remove CO2 in California.⁹ We encourage the SGIP to ensure that renewable hydrogen produced by any available pathway be eligible for the program.

d. This rulemaking should be considered a beginning, not an endpoint to implementing SB 1369. To achieve economies of scale and the full range of potential benefits of green electrolytic hydrogen, this should also include a broader set of regulatory frameworks that enable green electrolytic hydrogen to be adopted as a resource for additional uses like long-duration storage, power generation outside the scope of this rulemaking (e.g. thermal power plants, microgrids), and zero-emission transportation fuel.

⁶ The plan includes 7 billion euros to make Germany a hydrogen leader and an additional 2 billion euros to set up large-scale hydrogen production plants in partner countries, also to cover Germany’s import needs.

⁷ <https://www.cleanenergywire.org/news/germany-gives-energy-transition-some-extra-boost-economic-stimulus-programme>
⁷ <https://fuelcellworks.com/news/germany-minister-of-economic-affairs-peter-altmaier-wants-to-fund-green-hydrogen-with-additional-two-billion-euros/>

⁸ <https://renewablesnow.com/news/eus-green-deal-recovery-package-to-push-clean-hydrogen-renewables-tenders-699847/>;
<https://www.euractiv.com/wp-content/uploads/sites/2/2020/05/Green-Deal-Recovery-Package.pdf>

⁹ *Getting to Neutral*, Lawrence Livermore National Laboratory; January 2020 https://www-gs.llnl.gov/content/assets/docs/energy/Getting_to_Neutral.pdf

In addition to including green electrolytic hydrogen in this SGIP rulemaking, we strongly urge the PUC to include hydrogen in programs and regulatory frameworks that are determined in other existing proceedings, along with a separate process dedicated to green electrolytic hydrogen storage procurement, in order to fully implement SB 1369. Such efforts ought to include:

- **Completing an evidence-based hydrogen injection standard and establishing a procurement program** that includes green electrolytic and other types of decarbonized hydrogen and methane derived from renewable hydrogen (R.13-02-008).
- **Including green electrolytic hydrogen as a long duration storage and generation resource** in the continued IRP proceeding (R2005003) and the joint agency effort on implementing SB100.
- **Including hydrogen fuel cells and electrolyzers in microgrid and in onsite resiliency energy planning programs** (R.19-09-009, R.18-03-011).
- **Including renewable hydrogen and synthetic methane derived from renewable hydrogen as a cornerstone of repurposing the natural gas system to become a carrier of carbon neutral, reliable fuel that avoids stranded assets and maintains and builds on the current massive gas workforce**, in long term gas system planning (R.20-01-007).
- **Granting access to wholesale electricity rates and reasonable T&D charges to electrolysis, as well as to compression and distribution of hydrogen transportation fuel**, to accelerate cost competitiveness with fossil fuel-based incumbent alternatives.
- **Initiating a rulemaking similar to those initiated/completed for other storage technologies for utility procurement of green electrolytic hydrogen storage**, in order to fully enact SB 1369's provision to "authorize, procurement of resources to provide grid reliability services that minimize reliance on system power and fossil fuel resources and, where feasible, cost effective, and consistent with other state policy objectives, increase the use of large- and small-scale energy storage with a variety of technologies, including green electrolytic hydrogen."

III. Conclusion

The CHBC thanks the Commission for their consideration and looks forward to working together to facilitate advancement of green electrolytic hydrogen and other hydrogen

solutions across a broad range of applications, both in this proceeding and others to ensure full implementation of SB 1369.

Dated: June 29, 2020

Respectfully submitted,

A handwritten signature in black ink, appearing to read "WAZobel", written over the printed name.

Bill Zobel
Executive Director
California Hydrogen Business Council