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**California Hydrogen Business Council Response to Clean
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Resubmission

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California Hydrogen Business Council Response to Clean Transportation Financing and Investment Request for Information June 1, 2020

I. Introduction

The California Hydrogen Business Council (CHBC)¹ welcomes the opportunity to provide the following recommendations in response to the Energy Commission's Request for Information (RFI) for clean transportation and financing and investment programs. These measures would help spur private investment and complement public funding to accelerate the commercialization of California's clean transportation vehicles, fuels, technologies and infrastructure.

II. Background

The private sector has been encouraged to invest by California's groundbreaking history of support for hydrogen fuel cell electric transportation. Examples of policies that have accelerated private investment include AB 8, the CVRP, the Clean Transportation Program funding of hydrogen fueling stations, the Low Carbon Fuel Standard (including the infrastructure capacity credit), the ZEV Executive Order, and the HVIP, among others. There is no doubt that such state actions have been key to any success achieved so far.

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. Members are listed here: www.californiahydrogen.org/aboutus/chbc-members/

Tangible results include more than 8000 FCEVs on the roads and nearly 60 stations in operation or in development. International market signals suggest that with sustained policy support, there could soon be additions to three FCEV models on the market in California. BMW, for example recently announced that FCEVs are part of its future plans, with a fleet being tested next year.² This is bolstered by global analysts reporting that hydrogen fuel cell vehicles are projected to become cost competitive with conventional and battery electric vehicles in every category except short range light duty applications within the next few years.³

Notably, the private sector has also continued to invest in hydrogen fuel cell electric transportation technology in California, despite significant setbacks by policymakers and regulators, which includes for example, the legislature's decision to not support the Governor's 2018 budget request to provide implementation funding for the ZEV Executive Order goal of installing 200 hydrogen fueling stations by 2025. And the CPUC decision to exclude hydrogen fuel cell electric transportation in the implementation of SB 350's electric transportation provision, barring the industry from the regulatory support granted to the battery electric vehicle industry that has led to billions of dollars of utility investment in charging infrastructure.

Hydrogen fuel cell electric transportation technology companies, like any industry, need certainty and long-term commitment horizons from policymakers and regulators to maintain and scale investment. We therefore appreciate this RFI and the opportunity it presents to build on and strengthen the collaboration between the public and private sector to ensure the hydrogen fuel cell electric transportation market develops at the speed and size necessary for California to achieve its aim to transition to zero emissions transportation. We strongly believe, as the State has often recognized, that plug-in battery electric and hydrogen fuel cell electric transportation solutions complement each other,

² <https://www.press.bmwgroup.com/global/article/detail/T0300657EN/next-milestone:-bmw-group-aims-to-have-one-million-electrified-vehicles-on-the-roads-in-2021?language=en>

³ Path to Hydrogen Competitiveness – A Cost Perspective, Hydrogen Council, McKinsey & Co, pp 32-42; 2019 https://cafcp.org/sites/default/files/Path-to-Hydrogen-Competitiveness_Full-Study-1.pdf

are each more suited to certain applications than the other, and are both necessary to encourage equally to achieve the State’s clean air, clean energy, and climate goals.

III. Recommendations

A. Adopt recommendations in CARB’s Assessment of ZEV Programs per SB 498.

Pursuant to SB 498, CARB recently reviewed its ZEV programs and made policy recommendations for increasing the use of ZEVs in California in general and by fleet operators.⁴ Several of these specifically pertain to or implicitly include hydrogen fuel cell electric vehicles and infrastructure. We encourage you to support the recommendations in this report, and implement them where possible, in your programming. Examples include (details and other examples are available in the draft report):

1. Extend CEC’s Clean Transportation Program beyond 2023 and promote ZEV fuels.⁵
2. CEC, along with CPUC, ought to identify investment priorities for ZEV infrastructure to serve high-mileage fleets (e.g. ride-hailing services, transit, delivery vehicles, and heavy-duty applications), which have the potential to reduce more GHG and criteria air pollutants through ZEVs, and build the business case for ZEV infrastructure (e.g. lowering the cost of upstream transmission and distribution system upgrades like transformers).⁶
3. Define SB 350 transportation electrification to be inclusive of hydrogen.⁷
4. Convene a multi-agency working group with the goal of accelerating heavy-duty and off-road ZEV infrastructure (especially hydrogen) to be on par with light-duty ZEV infrastructure.⁸
5. Exempt sales tax on ZEV infrastructure.
6. Call for and provide predictable and expanded funding for existing ZEV incentive programs that is sufficient to drive consumer demand, and be sure this includes incentives for underserved populations.⁹
7. Call for and implement Statewide incentives that promote ZEVs through pricing strategies, such as usage- or emission-based fees, registration fee exemptions, and temporary sales tax

⁴ *Draft Assessment of CARB’s ZEV Programs Per SB 498*, CARB; December 2019

⁵ *Ibid*, p. vii

⁶ *Ibid*, p. ix

⁷ *Ibid*, p. vi

⁸ *Ibid*, p. viii

⁹ *Ibid*, p. v

exemptions for more vehicle types to provide relief to ZEVs, and zero-emission truck lanes along freight corridors.¹⁰

8. Call for and distribute additional funding for the deployment of light- and heavy-duty ZEV infrastructure within and near low-income and disadvantaged communities.¹¹
9. Call for increased funding for state-of-the-art ZEV regional readiness planning and implementation, including engagement with local jurisdictions.¹²
10. Direct the Electric Program Investment Charge (EPIC) programs, implemented by the CEC and the investor-owned utilities, to include research, and development into next-generation ZEV infrastructure technologies and operational strategies, including a focus on growing ZEVs in disadvantaged communities.¹³

B. Pursue Recommendations in 2019 IEPR.

CHBC also supports the recommendations in the 2019 IEPR chapter, in particular those that pertain specifically or implicitly to hydrogen fuel cell electric transportation technologies. These include:

1. Continue to support renewable hydrogen production with expanded sources of renewable hydrogen for transportation and other beneficial end uses. Specifically, this can be done, for example, through grant programs that demonstrate renewable hydrogen production technologies at scale.
2. Continue to support research, development, demonstration, and deployment of hydrogen refueling infrastructure for fleet and medium- and heavy-duty FCEVs.

C. Incorporate UC Irvine research and development recommendations into EPIC and other CEC R&D programming.

UC Irvine makes a number of recommendations for research and development areas of focus for renewable hydrogen development, especially as it pertains to transportation, that align with efforts on

¹⁰ Ibid, p. vi

¹¹ Ibid, p. viii

¹² Ibid, p. ix

¹³ Ibid

the federal level at the US Department of Energy.¹⁴ CHBC has previously shared with the Energy Commission that we believe the EPIC program should incorporate these into its solicitation concepts. For example:

1. Cost and performance tracking and forecasting of renewable hydrogen production facilities, as well as supply chain infrastructure, ought to be supported to guide investor and policy-maker decisions.
2. Global and California-specific demand forecasting is needed to anchor technology forecasts and investment planning.
3. The value of sector coupling enabled by renewable hydrogen between the transportation, electric and natural gas systems needs to be quantified.
4. Optimal electric and gas rate structures and market designs as they relate to renewable hydrogen must be developed and implemented.
5. Full-scale commercial demonstration is needed of high-impact-potential technologies across the production and supply chain, particularly those supporting production and storage at scale.
6. There needs to be stakeholder research and engagement in the unique context of California policy environment and its position as a global early adopter of hydrogen solutions, which is becoming increasingly needed in California to implement several state laws and policies.
7. Air quality and community impacts of implementing renewable hydrogen ought to be studied.

IV. Conclusion

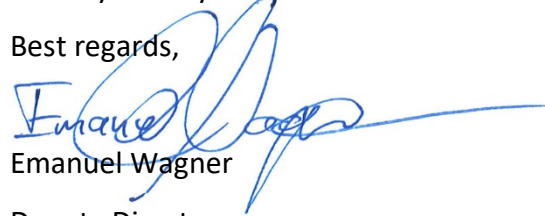
The CHBC appreciates this opportunity to provide recommendations for how policymakers can provide the long-term policy certainty that is needed to encourage large scale, ongoing investment from the private sector in hydrogen fuel cell electric transportation technologies. We believe such partnership between the public and private sectors will be essential to achieving California's ZEV goals, as well as

¹⁴ Project Results Webinar Slides, Jeffrey Reed, UCI, 8/29/19 <https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=17-HYD-01>

the clean air and climate protection that will result from successful achievement of these goals. We stand ready to help answer any questions.

Thank you for your attention.

Best regards,

A handwritten signature in blue ink, appearing to read "Emanuel Wagner", with a long horizontal flourish extending to the right.

Emanuel Wagner

Deputy Director

California Hydrogen Business Council