



California Air Resources Board
1001 I Street
Sacramento, CA 95814

September 22, 2021

RE: CHBC Comments on the 2022 Scoping Plan Update – Short Lived Climate Pollutants

I. INTRODUCTION

The California Hydrogen Business Council (CHBC)¹ welcomes the opportunity to comment on the California Air Resources Board (CARB) 2022 Scoping Update – Short Lived Climate Pollutants (SLCP). The CHBC previously submitted comments on the 2022 Scoping Plan Development Workshop held on June 8, 2021, where a more detailed description of our preferred modeling approach and inputs can be found.

II. DISCUSSION

The CHBC supports capturing SLCPs (namely methane emissions) from livestock operations, dairy operations, and landfills. We support the conversion of this renewable, low carbon intensity (CI) methane to renewable hydrogen which provides a versatile sub-zero/zero/low carbon energy solution for reducing SLCPs. Taking this one step further, the conversion of renewable hydrogen to synthetic renewable methane may also hold great promise as a one-for-one replacement for fossil methane with

¹ The CHBC is comprised of over 120 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 help the state meet its decarbonization goals. **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/>

the ability to decarbonize and lower criteria pollutant emissions from the electric, gas distribution and transportation sectors.²

SB 100 (2018) requires renewable energy and zero-carbon resources to supply 100 percent of electric retail sales to end-use customers by 2045,³ therefore, the need for renewable hydrogen as a zero-carbon resource will rise as the state moves closer to reaching its decarbonization goals. Renewable hydrogen, as a low/zero-carbon resource (in this case when converted from renewable methane) can be stored indefinitely, and serve as a firm renewable resource to the power sector during peak demand periods.^{4,5} Rather than relying on fossil fuels to cover peak hours of energy consumption where other renewable resources like wind and solar are not actively producing sufficient power, renewable hydrogen can meet state's the need for firm renewable power directly as renewable hydrogen and/or synthetic renewable methane. The CHBC encourages the Air Resources Board to include renewable hydrogen and synthetic renewable methane as solutions to decarbonizing and reducing criteria pollutant emissions from both the electric and gas grids. Here again, we call for using Earthshot pricing for renewable hydrogen of \$1/kg to fully demonstrate the value the fuel can bring to meeting California's goals.

Renewable hydrogen is currently being used in the transportation sector by fuel cell electric vehicles (FCEVs) – i.e. light duty cars, transit buses, heavy-duty truck demonstration projects and off-road vehicles like forklifts and marine vessels. Based on Governor Brown and Governor Newsom's executive orders requiring five million zero emission vehicles on the road by 2030 and 100 percent zero

² <https://www.pnnl.gov/news-media/new-clean-energy-process-converts-methane-hydrogen-zero-carbon-dioxide-emissions>

³ https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201720180SB100

⁴ <https://www.fchea.org/in-transition/2019/7/22/unlocking-the-potential-of-hydrogen-energy-storage>.

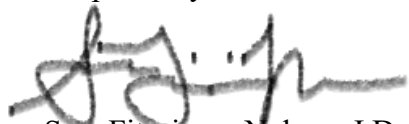
⁵ The CHBC has previously encouraged the 2022 Scoping Plan, and the CEC EPIC program to consider the long duration energy storage (LDES) potential of hydrogen within rock formations, depleted oil fields, and pipelines and defer comments here to our Scoping Plan comments dated July 9, 2021.

emission light-duty vehicle and drayage truck sales by 2035, and heavy duty truck sales by 2045 where feasible, the need for renewable hydrogen to supply zero emission FCEVs will drastically increase in the next decade.⁶ Because FCEVs emit only water, the renewable hydrogen produced from SLCPs (methane) would not only remove the SLCPs from the environment but also have immediate positive impacts on air quality, in particular in communities that suffer the highest burden from transportation sector emissions. The CHBC requests the Air Resources Board include renewable hydrogen production from SCLP (methane) conversion and the production and use of synthetic renewable methane (using Earthshot renewable hydrogen production costs of \$1/kg) as a transportation fuel in the 2022 Scoping Plan.

III. CONCLUSION

The CHBC looks forward to continued engagement on the 2022 Scoping Plan. We respectfully recommend the consideration of renewable hydrogen and synthetic renewable methane production as a solution to SLCP emissions that can energize California's electric and transportation sectors.

Respectfully Submitted,



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⁶ E.O. B-48-18; E.O. N-79-20.