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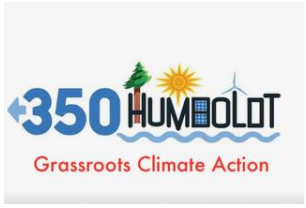
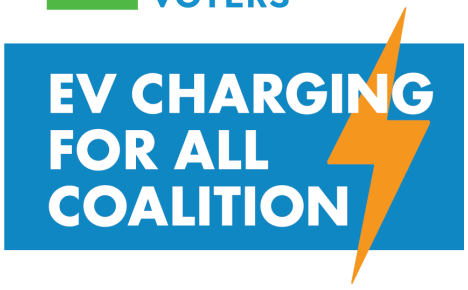
19 Organizations on Hydrogen Concerns in 24-25 CTP Updated Draft

Additional submitted attachment is included below.





October 22, 2024

California Energy Commission
715 P Street
Sacramento, CA 95814

Re: Docket 24-ALT-01 (2024-2025 Investment Plan Update for the Clean Transportation Program)

Thank you for the opportunity to provide feedback on the 2024-25 Investment Plan Update for the Clean Transportation Program (CTP). On behalf of the undersigned organizations, we share the following comments and recommendations.

Restrict hydrogen funding to Medium- and Heavy-Duty infrastructure

A key change in this updated draft is that $15M in hydrogen refueling has been separated out from the medium-heavy duty infrastructure category into its own allocation category and now can serve light-duty (LD) as well as medium-duty and heavy-duty (MDHD) infrastructure. We support separating out hydrogen as its own category, in order to better facilitate clear tracking of funds under AB 126's directive that at least 15% of CTP funds hydrogen investments. However, we are highly concerned about the decision to open funding up to LD hydrogen infrastructure.

As it stands today, hydrogen is more expensive,[1] less efficient,[2] and less environmentally-friendly[3] than battery power when used in electric vehicles, especially LD vehicles. To sum it up, an Energy Innovation analysis ranked use of hydrogen to power light-duty vehicles as "Terrible," the least feasible category of possible end uses for hydrogen.[4]

As the CTP draft notes, MDHD vehicles disproportionately contribute to on-road greenhouse gas, nitrogen oxide, and PM2.5 emissions. Therefore, MDHD remains a priority sector to electrify, particularly for predominantly low-income communities of color who remain the most impacted by pollution.[5] While LD vehicles in these communities must also be electrified,[6] the only two hydrogen passenger vehicle models on the market have higher sales prices than the most affordable battery electric passenger vehicles,[7] making them less accessible to the communities that need zero-emissions transportation the most, and positioning LD hydrogen vehicles as a less practical investment for the state from an equity perspective.

Hydrogen has a more uncertain role in the transportation sector than industry claims and rapid advances and sustained market growth in battery electric technology make the hydrogen market even more dubious. The Institute for Energy Economics and Financial Analysis (IEEFA) describes hydrogen's "small and shrinking market potential," cautioning against a "substantial waste of taxpayer dollars for an outsized hydrogen-based economy that will never arrive."[8]

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[1] Hemant Kumar, "Hydrogen Powered Cars and Trucks: Is there a role for them in the electrified U.S. future?", Massachusetts Institute of Technology (September 2021)
[2] Jasper Jolly, "Will hydrogen overtake batteries in the race for zero-emission cars?", The Guardian (February 2024)
[3] Sam Wilson, "Hydrogen-Powered Heavy-Duty Trucks", Union of Concerned Scientists (September 2023)
[4] Dan Esposito, "Hydrogen Policy's Narrow Path", Energy Innovation (August 2024)
[5] David Reichmuth, "Inequitable Exposure to Air Pollution from Vehicles in California", Union of Concerned Scientists (January 2019)
[6] Matthew Beyer, Ashley Gerrity, Román Partida-López, and David Reichmuth, "Cleaner Cars, Cleaner Air: Replacing California's Oldest and Dirtiest Cars Will Save Money and Lives", Union of Concerned Scientists and the Greenlining Institute (June 2023)
[7] A 2024 Toyota Mirai costs between $51-68k and a 2024 Hyundai Nexo costs $62-65k. In comparison, the most affordable 2024 battery electric vehicle models start at $28k, nearly half the cost.
[8] Mattei, Wamsted, and Feaster, "Bad News for Blue Hydrogen, The Small and Shrinking Market Potential for Hydrogen Fuel Cell Vehicles", Institute for Energy Economics and Financial Analysis (2023); see also

IEEFA reiterates that 'public dollars should not be sunk into projects that are likely to fail to achieve financial viability due to a weak market, and the market scenario for hydrogen in vehicular transportation is particularly troubling.'

This is further supported by the fact that, at this time, there are only 55 public hydrogen filling stations in California.[9] Electricity, on the other hand, has a well-developed distribution system that is the keystone to a carbon free economy. In California, there are over 36,000 public charging stations for EVs as well as over 45,000 private chargers,[10] to serve over 1 million battery electric vehicles (BEVs).[11] The Federal Inflation Reduction Act funding for EV chargers will further accelerate this growth. In order to overcome this huge installed base advantage for BEVs, enormous state and federal subsidies would be needed to support the existing 14,000 fuel cell electric vehicles (FCEVs) in California,[12] of which around 12,300 are Toyota Mirai, around 1,200 are Hyundai Nexo, and around 500 are the Honda Clarity Fuel Cell which is no longer in production.[13]

For the above reasons, California's hydrogen investments should be conservatively focused on hard-to-electrify sectors, such as long-haul trucking, and exclude LD vehicle fueling.

Reallocate undersubscribed hydrogen funds to support battery electric infrastructure

If hydrogen funds are undersubscribed, we support reallocating remaining funds as allowed under AB 126 to support expanding and improving battery electric infrastructure. This includes the $34M in unexpired funds from the canceled Shell agreement[14]— we oppose reallocating those funds toward light-duty hydrogen infrastructure as the CTP draft suggests.

Adopt a stronger definition for renewable hydrogen

According to the CEC's own data, more than 95% of hydrogen is currently produced from fossil fuels,[15] which runs counter to state climate goals and the CTP's purpose. This is unacceptable; any public funds that have been earmarked for hydrogen investments should meet an Environment Justice-centered definition of renewable hydrogen.

We note that while AB 126 prioritizes hydrogen funding for applicants that align with current federal 45V tax credit guidelines, merely *prioritizing* is not enough. AB 126 does not set a hydrogen standard for applicants, although that is what California needs. CTP hydrogen funds

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Wamsted, Feaster, Mattei, and Sanzillo, "Blue Hydrogen Has Extremely Limited Future in U.S. Energy Market", Institute for Energy Economics and Financial Analysis (2022).
[9] "Station Status", California Hydrogen Fuel Cell Partnership (Accessed October 2024)
[10] "Electric Vehicle Chargers in California", California Energy Commission (Accessed October 2024)
[11] "California Leads the Nation's ZEV Market, Surpassing 1 Million Electric Vehicles Sold", California Office of the Governor (February 2022)
[12] "Light-Duty Vehicle Population in California", California Energy Commission (Accessed October 2024)
[13] John Voelcker, "Hydrogen Fuel-Cell Vehicles: Everything You Need to Know", Car and Driver (April 2024)
[14] "2024-2025 Clean Transportation Program Draft Staff Report" (May 2024)
[15] "Hydrogen Fact Sheet", California Energy Commission (June 2021)

should only go toward truly clean hydrogen projects, as defined in the Environmental Justice Position on Green Hydrogen in California.[16]

Setting hydrogen goals for California without the appropriate guardrails on hydrogen production and end use will exacerbate pollution, affordability concerns, and water access issues in priority communities. If this hydrogen is produced from fossil fuels or livestock biogas, it will also create pollution in historically overburdened Environmental Justice communities.[17]

We appreciate the opportunity to comment on the CEC's proposed investment plan and look forward to continuing to track progress on this effort. Please do not hesitate to reach out to marissa.wu@greenlining.org with any questions or to schedule a time to discuss our recommendations further.

Sincerely,

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The Greenlining Institute

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350 Humboldt Steering Committee

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Christina Scaringe
Center for Biological Diversity

Woody Hastings
The Climate Center

Shoshana Wechsler
Sunflower Alliance

[16] "Equity Principles for Hydrogen: Environmental Justice Position on Green Hydrogen in California", Asian Pacific Environmental Network (APEN), California Environmental Justice Alliance (CEJA), Center for Community Action and Environmental Justice (CCAEJ), Center on Race, Poverty & The Environment (CPRE), Communities for a Better Environment, Environmental Health Coalition, Leadership Counsel for Justice and Accountability, Pacoima Beautiful, Physicians for Social Responsibility Los Angeles (PSR-LA) (October 2023)
[17] See footnote 16 above.

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