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Hydrogen, The Key to an Equitable Clean Energy Future for All Californians

Additional submitted attachment is included below.

Hydrogen: The Key to an Equitable Clean Energy Future for All Californians

Hi,

My name is Edgardo Guzman, and I am a 2018 Toyota Mirai owner. Hydrogen is essential for creating a realistic and equitable clean energy future for California. Instead of discussing the well-known benefits of hydrogen such as fast refueling, increased reliability, low electric grid strain, and a gas-equivalent fueling experience, I will focus on why hydrogen is necessary for an equitable clean energy future in California.

Background

I am a first-generation Mexican American college graduate. I received my Bachelor of Science in Aerospace Engineering from California State University Long Beach (CSULB) and my MBA from Washington State University. I currently work at the Jet Propulsion Laboratory as a Systems Integration and Test Engineer. I grew up in Lamont, CA, a small farm town in rural Kern County, which ranks in the top 25% of underserved communities in California.

1) Nonstandard Work Schedules

An example of a non-standard work schedule are my parents, whom worked nonstandard schedules making home charging impractical due to high electricity costs during peak hours or limited home presence. Night shifts, common among farmworkers and factory workers, exacerbate this issue. FCEVs solve this by allowing quick refueling regardless of work hours.

2) Long Commutes

Underserved communities/workers tend to have longer commutes which in turn increases the time spent in traffic.[2] With housing prices increasing, many tend to move away from city centers and end up commuting longer distances than usual. These long commutes are not feasible for BEV vehicles because as soon as a commuter reaches their workplace/destination, range anxiety kicks in. For example, with my current commute from Lakewood to Pasadena, I'd be driving close to 100 miles a day. With a BEV, I cannot risk charging at work and also do not have the time to publicly charge. In contrast, FCEVs allow for quick refueling similar to traditional gasoline cars.

3) Harsh Working Conditions/Environments

Based on my previous premise, underserved communities may not have the capabilities to provide a charging spot at the workplace. Usually, these workplaces would be in rural areas or factories where there may not be any parking or electrical grid to handle a flux of electric vehicles. For example, farmworkers

will not have the capability to charge in rural areas or some may not have a dedicated parking spot in multi-family communities. FCEVs, with their quick refueling, are better suited for such environments.

4) Nonstandard living conditions

As housing is getting more expensive, many families must rely on living in multifamily living conditions. In Los Angeles, many people must resort to double parking. Double parking is the act of parking next to another car on the street. Although the act is not legal, this shows the dire condition of being able to find a parking spot in underserved and heavily congestion areas of Los Angeles. FCEVs, which refuel at common sites rather than at home, are more practical.

5) Low electric reliability

Living in Central California during the heatwave alone should show how bad our electrical grid is. I've experienced countless blackouts and brownouts to know that our grid can't sustain the increased usage of electricity. One of the worst cases was living in a new construction home in Bakersfield with solar panels and experiencing a region-wide blackout for 9 hours during the summer. My partner and I. whom both are working professionals, had to stay in Lamont with my parents during that time because we had no electricity and we had to do our jobs. This alone upsets me that as a society we are not pushing more for hydrogen to ease the load of our electrical grid. Even now, my parents already experienced 4 blackouts in Lamont and we are not in the middle of the summer heatwave. FCEVs alleviate grid stress, offering a more reliable alternative.

Conclusion:

As an engineer and first-generation college graduate from one of California's most underserved communities, I believe electric cars are not equitable for all. Hydrogen technology is accessible to a broader population and provides an easy transition from traditional fueling methods. Currently the costs of hydrogen are high but there's ultimate optimism that more manufacturing and sites of hydrogen can bring the costs down. The unfortunate thing is that hydrogen is a front-heavy loaded technology, meaning it requires a large front cost in order to set the infrastructure and manufacturing required for he system to work.

Also renaming "Equitable At Home Charging" to just "At Home Charging" reflects the reality that not everyone has access to such facilities. Without funding for light-duty hydrogen vehicles, California risks creating a clean energy future that excludes many. We need diverse fuel options

to achieve our clean energy goals equitably. Funding for hydrogen infrastructure is essential for this vision.

Thank you for considering my comments.

Citations:

https://www.prb.org/resources/a-demographic-profile-of-u-s-workers-around-the-clock/

2.“Research Finds Lack of Affordable Housing Increases Commute Times.” *National Low Income Housing Coalition*, 12 June 2023, nlihc.org/resource/research-finds-lack-affordable-housing-increases-commute-times.