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**SoCalGas Comments on FCEV Customer Experience Workshop on  
2023-11-06**

*Additional submitted attachment is included below.*



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December 4, 2023

Melanie Vail, Deputy Director, Fuel and Transportation Division  
Mark Johnson, Air Pollution Specialist, Hydrogen Refueling Infrastructure Unit  
California Energy Commission  
Docket Unit, MS-4  
Docket No. 22-HYD-01  
715 P Street  
Sacramento, CA 95814-5512

**Subject: Comments on the CEC Joint Workshop with CARB and GO-Biz to Discuss the Fuel Cell Electric Vehicle (FCEV) Customer Experience held on November 6, 2023**

Dear Ms. Vail and Mr. Johnson:

Southern California Gas Company (SoCalGas) appreciates the opportunity to provide comments on the November 6, 2023 California Energy Commission (CEC) 2023 Joint Workshop with the California Air Resources Board (CARB) and California’s Governor’s Office of Business and Economic Development (GO-Biz) to Discuss the Fuel Cell Electric Vehicle (FCEV) Customer Experience .

SoCalGas commends the efforts of the CEC to focus on ensuring Californians’ experiences with fueling and charging of zero-emission vehicles (ZEVs) are efficient and straightforward. While CEC rightly points to significant challenges with fueling of light-duty FCEVs, a combined discussion of customer experiences with all types of ZEVs would be in the public interest.

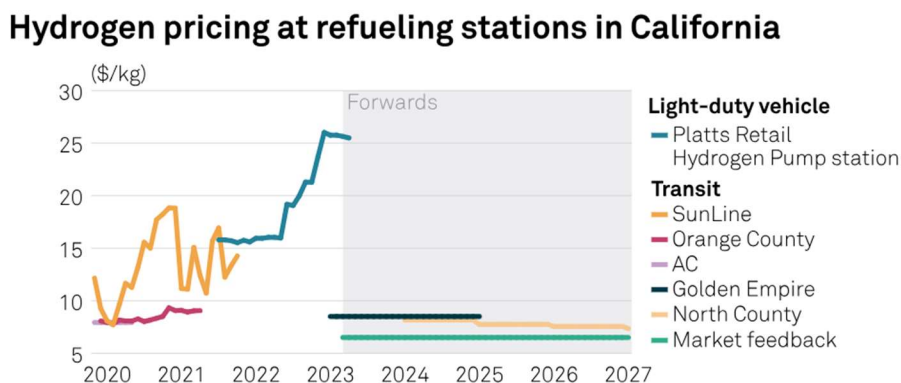
Among the focus areas during the workshop discussion was the recent spike in the price of hydrogen dispensed at light-duty fueling stations, which reached \$36 per kilogram. SoCalGas appreciates the attention to the recent price volatility but is concerned highlighting this data point does not reflect the whole market. It is also in the public interest to explore what factors affect hydrogen retail prices. Standard and Poor’s (S&P) Global Commodity Insights recently compiled data regarding hydrogen retail prices and found the cost of hydrogen remained consistently at or near \$16 per kilogram through 2022 (see Figure 1). This recent price volatility is worth noting for

the CEC to explore retail price volatility issues and mitigation strategies. Insofar as transportation of hydrogen is an important component of the cost of hydrogen, scaling up delivery infrastructure will help build a robust market, which in turn could help alleviate price pressures.

Furthermore, it is important to consider that the \$36 per kilogram price is for light-duty refueling stations; it is not clear how this information correlates to the prices at medium- and heavy-duty hydrogen refueling locations. It would be beneficial for the public to understand how transit authorities are working to lock in lower prices for retail hydrogen. Currently, transit authorities are looking to contract for hydrogen prices less than \$10 per kilogram for future fleets that will arrive in 2024.

Additionally, during the November 15 CEC Integrated Energy Policy Report (IEPR) Commissioner Workshop on Load Modifier Scenario Results, CEC staff indicated that the Additional Achievable Transportation Electrification (AATE) 3 scenario is very sensitive to hydrogen fuel price while reflecting recent price trends. As such, there is a risk that the recent price spike may have an outsized impact on overall planning.

**Figure 1: Hydrogen Pricing at Refueling Stations in California<sup>1</sup>**



Source: S&P Global Commodity Insights, Transit agencies, and NREL

SoCalGas commends the CEC for its work on solutions to decarbonize the transportation sector. As noted, light-duty hydrogen refueling has not been without refueling challenges. To present a more complete view, it is also worth noting that, while battery electric vehicles are promising options, EV charging likewise presents access and availability challenges, particularly for the large portion of Californians without easy access to a home EV charging unit. For example, media reported on a recent J.D. Power survey of EV owners that reported “about 21 percent of their

<sup>1</sup> S&P Global Commodity Insights, “California transit agencies establishing road map for hydrogen fuel cell use in buses,” June 14, 2023, available at: <https://www.spglobal.com/commodityinsights/en/market-insights/latest-news/energy-transition/061423-california-transit-agencies-establishing-road-map-for-hydrogen-fuel-cell-use-in-buses>.

attempts to charge in public end in failure due to broken chargers or faulty payment systems.”<sup>2</sup> The public frequently airs frustration with EV charging infrastructure bottlenecks and problems with charger network interfaces.<sup>3 4 5</sup>

Slides presented during a CEC Electric Vehicle Charging Infrastructure Reliability Workshop in 2022 cited several indicators of consumer frustration with the charging experience: a CARB consumer survey found that 40 percent of California respondents had contacted customer service about broken kiosks or plugs or system shutoffs; a Plug In America survey found that 34 percent of direct current (DC) fast charging customers considered broken chargers a “moderate concern;” and a University of California (U.C.) Berkeley study of open-system public charging stations in the Bay Area found one quarter of plugs tested to be unreliable or have design failure.<sup>6</sup> Members of the public expressed reliability concerns during that workshop as well as during an October 2023 workshop on proposed regulations.<sup>7</sup> While the November 6 workshop pointed out light-duty hydrogen fueling challenges that need attention, it is worth noting during the same forum that public EV charging is also not yet seamless.

SoCalGas commends CEC for its work establish the clean refueling and charging system for zero emission vehicles and looks forward to continuing our collaboration to ensure clean fuels like clean and renewable hydrogen support decarbonization goals while maintaining critical energy reliability and resilience. We are proud to be a partner in California’s climate efforts and look forward to the work ahead. Thank you for your consideration of our comments.

Respectfully,

*/s/ Kevin Barker*

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<sup>2</sup> Tucker, Sean, *MarketWatch*, “The big problem with chargers that’s challenging electric car owners,” October 23, 2023, available at: <https://www.marketwatch.com/story/the-big-problem-with-chargers-thats-challenging-electric-car-owners-dcd64635>.

<sup>3</sup> Stern, Joanna, *The Wall Street Journal*, “I Visited Over 120 EV Chargers: Three Reasons Why So Many Were Broken,” November 15, 2023, available at: <https://www.wsj.com/tech/i-visited-over-120-ev-chargers-three-reasons-why-so-many-were-broken-7a5d3e45>.

<sup>4</sup> Hiller, Jennifer, *The Wall Street Journal*, “Even Transportation Secretary Pete Buttigieg Can't Find a Reliable EV Charger,” September 13, 2023, available at <https://www.wsj.com/us-news/even-transportation-secretary-pete-buttigieg-cant-find-a-reliable-ev-charger-f6c9e777>.

<sup>5</sup> Gomes, Nathan, *Reuters*, “EVs struggle with reliability due to charging, battery issues - Consumer Reports survey” November 29, 2023, available at: <https://www.reuters.com/business/autos-transportation/evs-struggle-with-reliability-due-charging-battery-issues-consumer-reports-2023-11-29/>.

<sup>6</sup> CEC, Electric Vehicle Charging Infrastructure Reliability Workshop, March 11, 2022, presentation available at: <https://www.energy.ca.gov/event/workshop/2022-03/electric-vehicle-charging-infrastructure-reliability-workshop>.

<sup>7</sup> CEC, Workshop on Proposed Regulations for EV Charger Inventory, Utilization, and Reliability Reporting, October 9, 2023, 22-EVI-04, available at: <https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=22-EVI-04>.