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Comments on Funding Allocations for Future Medium- and Heavy-Duty Charging and Refueling Infrastructure Projects

Additional submitted attachment is included below.



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March 18, 2022

The Honorable Patricia Monahan
Commissioner
California Energy Commission
Docket Unit, MS-4
Docket No. 19-TRAN-02
715 P Street
Sacramento, CA 95814-5512

Subject: Comments on the Staff Workshop on Funding Allocations for Future Medium- and Heavy-Duty Charging and Refueling Infrastructure Projects

Dear Commissioner Monahan:

Southern California Gas Company (SoCalGas) appreciates the opportunity to comment on the February 28, 2022 California Energy Commission (CEC) Staff Workshop on Funding Allocations for Future Medium- and Heavy-Duty Charging and Refueling Infrastructure Projects. The Clean Transportation Program is critical for setting the long-term strategies that accelerate the adoption of zero emission vehicles (ZEV) within the trucking industry to help achieve the State's carbon neutrality goals by 2045. California cannot reach attainment of ozone and greenhouse gas (GHG) goals without this substantive, long-term, and forward-thinking approach for ZEVs. We appreciate the thoughtful and inclusive approach that has led to the workshop questions for participants and offer the following comments grouped into three categories:

- (1) Strategic incentive programs can allow zero-emission fuels to achieve cost parity with traditional fuels;**
- (2) Targeted funding in the South Coast and San Joaquin Air Basins will support the greatest public health, climate, and air quality benefits; and**
- (3) The Hydrogen Refueling concept should include support for onsite, direct renewable hydrogen production, while also allowing for direct hydrogen pipelines to mitigate fuel supply interruptions.**

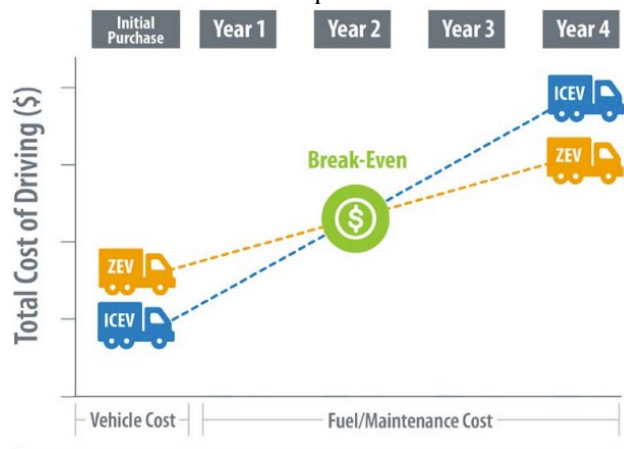
(1) Strategic incentive programs can allow zero-emission fuels to achieve cost parity with traditional fuels.

In this section, we answer: **Which of the proposed concepts should take priority in being further developed?**

According to the U.S. Department of Energy (DOE), medium- and heavy-duty vehicles account for less than five percent of vehicles on the road but produce over 20 percent of the GHG emissions from the transportation sector, which accounts for greater than one-third of U.S GHG emissions.¹ Further, a new study released by the DOE highlights that by 2030, approximately half of medium- and heavy-duty trucks will be more cost-effective to buy, operate and maintain as ZEVs, when compared to traditional diesel-powered combustion engine vehicles.² When further developing the proposed concepts, we encourage the CEC to continue to take an inclusive approach for both battery and fuel-cell electric medium- and heavy-duty vehicles.

Additionally, the funding levels for the hydrogen refueling concept should be designed to allow zero-emission fuels to achieve, at a minimum, cost parity with existing petroleum fuels to encourage quicker adoption of ZEVs across the State. For example, Figure 1 below illustrates that when fuel and maintenance costs are optimized, these factors can have a substantial impact on the Total Cost of Driving (TCD) a ZEV. The CEC should continue to take an inclusive approach, considering all possible ZEV infrastructure and technologies, when developing the proposed concepts.

Figure 1: Example of a ZEV Reaching Cost Parity with Internal Combustion Engine Vehicle (ICEV) Due to Lower Operational Costs^{3,4}



¹ See DOE Projects Zero Emissions Medium- and Heavy-Duty Electric Trucks Will Be Cheaper than Diesel-Powered Trucks by 2035, U.S. DOE, available at: <https://www.energy.gov/articles/doe-projects-zero-emissions-medium-and-heavy-duty-electric-trucks-will-be-cheaper-diesel>

² See Decarbonizing Medium- & Heavy-Duty On-Road Vehicles: Zero-Emission Vehicles Cost Analysis, NREL, available at: <https://www.nrel.gov/docs/fy22osti/82081.pdf>

³ *Ibid.*

⁴ The ZEV reaches breakeven within an assumed financial horizon, despite a higher vehicle cost. In this instance, the total cost of driving (TCD) is determined by the upfront vehicle cost, fuel costs, maintenance costs, vehicle usage (Vehicle Miles Traveled), financial horizon (discount rate), monetized charging time cost for BEVs (charging availability and speed).

Additional opportunities to accelerate progress toward achieving cost-parity include carbon pricing and similar incentive mechanisms led by strong governmental commitments and financial support. Specifically, expanding upon the California Air Resources Board (CARB) low-carbon fuel standard (LCFS) credits to stationary resources, developing more robust production tax credits (PTC), and Carbon Border Adjustment Mechanisms^{5,6} could help create increased demand for hydrogen in this sector, thus resulting in increased production and economies of scale that would drive down hydrogen costs, achieving cost parity with existing alternatives.

(2) Targeted funding in the South Coast and San Joaquin Air Basins will support the greatest public health, climate, and air quality benefits.

In this section, we answer: **Should the CEC target specific regions in the State?**

To provide the greatest public health, air quality, and climate benefits in the State, CEC funding should be targeted in the South Coast and San Joaquin Air Basins which are both in extreme non-attainment status for the Federal 8-hour Ozone Standards and have high levels of truck congestion.⁷ South Coast Air Quality Management District (SCAQMD) and San Joaquin Valley Air Pollution Control District (APCD) are in the process of developing Air Plans to help outline their strategies to achieve these Federal standards by 2037. By targeting incentives in these areas to help develop zero-emission truck technologies, the CEC can align its climate strategies with public health benefits by cleaning the air in some of California's most polluted communities.

(3) The Hydrogen Refueling concept should include support for onsite, direct renewable hydrogen production, while also allowing for direct hydrogen pipelines to mitigate fuel supply interruptions.

In this section, we answer: **Should this concept include support for onsite, direct renewable hydrogen production? And Which production technologies should be eligible, at what minimum production capacity, and at what funding level?**

SoCalGas believes that the hydrogen refueling concept should include support for onsite, direct renewable hydrogen production. Renewable hydrogen should include all technologies that utilize renewable feedstock, such as renewable electricity feeding electrolysis, renewable natural gas feeding steam methane reformation, and similar technologies. On-site production with resilient feedstock, such as renewable natural gas, can mitigate the impact of fuel supply interruptions due to hydrogen supply shortages, wildfire-induced electrical outages, and other extreme weather

⁵ Carbon Border Adjustment Mechanisms (CBAM), also known as border carbon adjustment (BCA), is an environmental trade policy that consists of charges on imports, and sometimes rebates on exports. This trade policy reflects the regulatory costs sustained by domestically produced carbon-intensive products. This trade policy provides a cost equivalent to domestic climate regulatory costs on otherwise unregulated imports.

⁶ See Border Carbon Adjustments 101, Resources for the Future, available at: <https://www.rff.org/publications/explainers/border-carbon-adjustments-101/#:~:text=A%20border%20carbon%20adjustment%2C%20or,same%2C%20foreign%2Dproduced%20products.>

⁷ See Ambient Air Quality Standards & Valley Attainment Status, available at: <https://www.valleyair.org/aqinfo/attainment.htm> and South Coast Air Quality Management Plan, available at: <http://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan>

events. The State has a goal to reach 200 hydrogen stations by 2025⁸ and most of the hydrogen refueling stations today are supplied by trucks⁹; these stations are distributed relatively low volumes compared to what would be required in a decarbonized California. As of October 2021, one Shell station in Torrance is supplied by a hydrogen pipeline.¹⁰ A broader network of hydrogen pipelines could catalyze the expansion of hydrogen refueling stations.¹¹ Dedicated hydrogen pipelines to direct end-uses, such as refueling stations, could also provide additional resiliency benefits to the State.

For example, SoCalGas recently submitted its Application of Southern California Gas Company Authority to Establish a Memorandum Account for the Angeles Link Project (Application 22-02-007) to the California Public Utilities Commission, to track costs associated with planning work towards establishing a dedicated hydrogen energy transport system. The foundation of the system would be one or more trunk transmission pipelines that would run from green hydrogen generation sources including, but not limited to, the Central Valley, Mojave Desert/Needles, or Blythe area, into one or more delivery points in the Los Angeles Basin. The Angeles Link Project presents a prime example in which the gas system can provide the infrastructure that provides customers with the ability to reduce their GHG emissions and the State expanded pathways to decarbonize and enhance resiliency including the transportation sector.

Conclusion

SoCalGas appreciates the opportunity to comment in support of the CEC's continued efforts to advance research and development on the transition to clean energy solutions in the statewide transportation sector. CEC funding should be targeted in the South Coast and San Joaquin air basins to maximize the public benefits to those communities in greatest need and should be designed to allow zero-emission fuels to achieve, at a minimum, cost parity with existing petroleum fuels to encourage quicker adoption of zero-emission vehicles. We look forward to working with CEC staff in developing the funding levels for medium- and heavy-duty ZEV infrastructure in the State.

Respectfully,

/s/ Kevin Barker

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⁸ See California Governor's Executive Order B-48-18, January 2018, available at: <https://www.ca.gov/archive/gov39/2018/01/26/governor-browntakes-action-to-increase-zero-emission-vehicles-fund-new-climate-investments/index.html>

⁹ See SoCalGas Clean Fuels Report, available at: https://www.socalgas.com/sites/default/files/2021-10/Roles_Clean_Fuels_Full_Report.pdf

¹⁰ See PR Newswire, "Air Products Selected for Technology Upgrade at Shell Hydrogen Fueling Station in Torrance, California," November 2016, available at: <https://www.prnewswire.com/news-releases/air-products-selected-for-technology-upgrade-at-shell-hydrogen-fueling-station-in-torrance-california-300363279.html>.

¹¹ See SoCalGas Clean Fuels Report.