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Ariel Fideldy, Manager
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California Air Resources Board
1001 I Street
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Subject: Comments on the Proposed 2022 State Strategy for the State Implementation Plan

Dear Ms. Fideldy and Mr. Hicks:

Southern California Gas Company (SoCalGas) appreciates the opportunity to provide comments on the California Air Resources Board (CARB) Proposed 2022 State Strategy for the State Implementation Plan (2022 State SIP Strategy) released August 11, 2022. We recognize and appreciate the thoughtfulness put into the measures to control ozone precursor emissions, in particular oxides of nitrogen (NO_x), to plan for attainment of the federal ozone standards. Unquestionably, we need to transition to clean fuels and zero-emission infrastructure to significantly reduce emissions from mobile sources statewide.

As the 2022 State SIP Strategy notes, most NO_x emissions are primarily from heavy-duty trucks, ships, and other mobile sources, the majority of which are federally regulated.¹ While NO_x emissions in California have decreased significantly in recent years, almost all the reductions have come from sources under CARB and air district authority. In contrast, NO_x emissions from federally regulated sources are increasing.² In 2020, emissions from primarily-federally regulated sources exceeded emissions from California-regulated mobile sources statewide and NO_x emissions from primarily-federally regulated sources will be double California-regulated mobile sources by 2031.³

¹ See 2022 State SIP Strategy, p. ES6

² *Ibid.*

³ *Ibid.*

Consequently, the 2022 State SIP indicates that attainment is not possible without addressing those federal sources.⁴ Given the magnitude of emissions reductions necessary to meet the 2015 8-hour ozone standard, SoCalGas supports CARB’s efforts to compel emissions reductions from federal sources. However, the State can better position itself today to achieve its attainment goals through near-term air pollution reductions and supporting technologies. Thus, SoCalGas’ comments focus on the following: (1) Low NOx Heavy-Duty (HD) trucks should be utilized instead of banned in the transportation sector to expedite emissions reductions; (2) a HD truck fuel prioritization loading order can help displace HD diesel trucks during Zero Emission Vehicle (ZEV) build-out; and, (3) a fuel card program can help displace HD diesel trucks today and provide a pathway for zero-emission fueling infrastructure.

1) Low NOx Heavy-Duty Trucks should be utilized instead of banned in the transportation sector to expedite emissions reductions

In the 2022 State SIP Strategy, the proposed “Zero Emissions Truck Measure” seeks to eliminate all combustion HD trucks by 2045, including natural gas (NG) near zero emission (NZE) vehicles certified to the optional 0.02 g/bhp-hr NOx emissions standard.⁵ The proposed 2022 State SIP Strategy recognizes that regulations should be consistent with EO N-79-20, which states that it is a “goal of the State that 100 percent of medium- and heavy-duty vehicles in the State be zero-emission by 2045 for all operations *where feasible* (emphasis added).”⁶ However, it fails to recognize that there are a host of reasons that it may not be feasible to operate zero emission HD vehicles by 2045, such as insufficient infrastructure, lengthy recharging times, limited vehicle range, supply chain disruptions, prohibitive costs, and charging patterns that diverge from typical case usages.

Recent strategies and rulemaking proposals released by CARB, such as the Advanced Clean Fleets (ACF), the Revised Draft 2020 Mobile Source Strategy (MSS) and the Advanced Clean Trucks Regulation (ACT),^{7,8,9} focus on a 100 percent ZEV fleet beginning as early as 2024.¹⁰ As noted by stakeholders in CARB workshops and public meetings for these regulations, ZEV technology is **not** commercially available to meet the needs of all duty cycles of Class 8 HD trucks today and unlikely to be available by 2024. Similarly, at the February 24, 2022, CARB Board Meeting, several commenters expressed the need to incorporate vehicles fueled with Renewable Natural Gas (RNG) into the 2022 State SIP Strategy. Commenters stated that this carbon-negative fuel is successfully produced and utilized to power water treatment plants, dairy farms, and compressed

⁴ See *Figure 13* 2022 State SIP Strategy, p. ES40.

⁵ See 2022 State SIP Strategy, p. ES61.

⁶ See Executive Order N-79-20, available at <https://www.gov.ca.gov/wp-content/uploads/2020/09/9.23.20-EO-N-79-20-Climate.pdf>.

⁷ “Draft Advanced Clean Fleets Regulation,” CARB, 2022, available at: https://ww2.arb.ca.gov/sites/default/files/2022-04/220502draftpf_ADA.pdf

⁸ “Revised Draft 2020 Mobile Source Strategy,” CARB, April 23, 2021, available at

https://ww2.arb.ca.gov/sites/default/files/2021-04/Revised_Draft_2020_Mobile_Source_Strategy.pdf.

⁹ “Advanced Clean Trucks,” CARB, 2021, available at: <https://ww2.arb.ca.gov/our-work/programs/advanced-clean-trucks>.

¹⁰ Ibid.

natural gas (CNG) vehicles. These stakeholders are mandated to manage their RNG byproduct and have consistently requested clarity on where RNG will go if it is banned as a transportation fuel.¹¹ Sarah Rees, Deputy Executive Officer at South Coast Air Quality Management District (South Coast AQMD), expressed that, while we need to transition ZEV across all sectors, we cannot sit by and wait; we must implement commercially available technologies as they become available, including Low NOx RNG technologies.¹²

This is further reiterated in South Coast AQMD's letter to Partners in Environmental Justice and Environmental Health, dated August 3, 2021, wherein South Coast AQMD stated that actions to make progress toward climate goals and reduce air pollution "can and must go hand-in-hand."¹³ The letter further stated that HD trucks fueled with RNG are commercially available today, can "provide substantial greenhouse gas (GHG) emission reductions," and are "at least 90 percent cleaner than new diesel trucks on NOx and 100 percent cleaner on cancer-causing diesel particulate matter (DPM)."¹⁴ In addition, a peer-reviewed study recently published by the University of California, Riverside, in the journal "Transportation Research Part D," reinforces this point by stating that HD trucks fueled with RNG should be rapidly deployed in the 2020-2040 timeframe to achieve GHG and NOx emission reduction targets, and "accelerating [the diesel trucks] fleet turnover is a more important NOx control strategy than dividing up vehicle replacements...between near-zero-emissions and zero-emissions vehicles."¹⁵

Given that medium- and HD vehicles are responsible for about 32 percent of total Statewide NOx emissions and most of these emissions are from diesel-cycle engines, it is necessary to accelerate diesel truck turnover.¹⁶ It is in the public's interest to avoid deferring significant reductions in NOx and GHG emissions that can be achieved today by utilizing RNG as a transportation fuel in NG NZE HD trucks. During an update on the 200 Vehicle In-Use Emissions Testing Program at the September 8th South Coast AQMD Clean Fuels Advisory Committee, Dr. Thomas Durbin, UC Riverside, concluded the "0.02 g CNG vehicles showed solid near-term potential for reducing NOx emissions."¹⁷ SoCalGas respectfully suggests that it is important to exercise due caution when putting forth preliminary results so that policies are informed by reliable data.¹⁸ SoCalGas submits that, as these policies move forward, it is in the public's interest for the State to embrace NG NZE HD trucks, as they are commercially available now and are currently helping California replace diesel trucks and reduce NOx, GHG, and other criteria air pollutant emissions.

¹¹ CARB Board Meeting held February 24-25, 2022, available at <https://cal-span.org/static/meetings-CARB.php>.

¹² *Ibid.*

¹³ Nastri, Wayne. "Letter to Partners in Environmental Justice and Environmental Health" August 3, 2021.

¹⁴ *Ibid.*

¹⁵ See Achieving NOx and Greenhouse gas emissions goals in California's Heavy-Duty transportation sector, Transportation Research Part D: Transport and Environment, Volume 97, 2021, August 2021, available at: <https://www.sciencedirect.com/science/article/pii/S1361920921001826>.

¹⁶ See 2022 State SIP Strategy, p. ES55

¹⁷ See "200 Vehicle In-Use Emissions Testing Program Update" presentation from the SCAQMD Clean Fuels Advisory Committee meeting held September 8, 2022, available at clean-fuels-advisory-group-agenda_september-8-2022.pdf (aqmd.gov)

¹⁸ See CARB Board Meeting held June 24, 2022, 0:41:45, available at https://cal-span.org/meeting/carb_20220624/

2) A Heavy-Duty truck fuel prioritization loading order can help displace Heavy-Duty diesel trucks during ZEV build-out

Increased use of commercially available NG NZE HD trucks can continue to reduce NOx emissions from the transportation sector today and, going forward, providing the co-benefit of reducing GHG emissions. CARB's ZEV-centric approach, particularly for the HD truck sector, prevents potential reductions in NOx and GHG emissions that can be achieved today. Further, it does not result in the most health-protective policy decision in the near term (greatest reduction of black carbon). CARB Staff should ensure that optional low-NOx RNG trucks are included as part of the suite of fuel/technology pathways that CARB pursues in the 2022 State SIP Strategy to expedite NOx emission reductions. For instance, CARB could implement a HD truck loading order that would establish a prioritization list from which HD trucks are purchased. The loading order should prioritize the purchase of ZEV where feasible, followed by NG NZE trucks, and lastly diesel.

Currently regulations do not prioritize utilizing the cleanest option feasible; instead, they prioritize ZEV and equate diesel and NG NZE trucks as equivalent technologies.¹⁹ Studies continue to show that NG NZE trucks pollute significantly less than diesel, thus it is in the public interest to prioritize and implement, to the extent possible, a HD truck fuel prioritization loading order that is reflective of the State's air quality goals.²⁰ Of particular concern are health effects related to emissions from diesel engines. Diesel particulate matter (DPM) has been identified as a toxic air contaminant, composed of carbon particles and numerous organic compounds, including over forty known cancer-causing organic substances. The majority of DPM is small enough to be inhaled deep into the lungs and make them more susceptible to injury.²¹ Low-NOx natural gas trucks fueled by RNG do not produce DPM and therefore the truck loading order should favor these technologies over and above diesel. Without a loading order, HD diesel trucks may be purchased over NG NZE trucks fueled by RNG, thereby proliferating higher NOx, DPM, and GHG emissions.

3) A fuel card program can help displace heavy-duty diesel trucks today and provide a pathway for zero-emission fueling infrastructure

The 2022 State SIP Strategy states that "CARB's emission reduction commitments may be achieved through a combination of actions including but not limited.... the expenditure of local, State or federal incentive funds." Similarly, the Draft 2022 AQMP states that "incentive funds can facilitate the replacement of older, higher-emitting vehicles and equipment with the cleanest

¹⁹ "Draft Advanced Clean Fleets Regulation," CARB, 2022.

²⁰ See "200 Vehicle In-Use Emissions Testing Program Update" presentation from the SCAQMD Clean Fuels Advisory Committee meeting held September 8, 2022, available at [clean-fuels-advisory-group-agenda_september-8-2022.pdf](https://www.scaqmd.gov/clean-fuels-advisory-group-agenda-september-8-2022.pdf) (aqmd.gov)

²¹ See Use of Back-up Engines for Electricity Generation During Public Safety Power Shutoff Events, California Air Resources Board (CARB), available at <https://ww2.arb.ca.gov/resources/documents/use-back-engines-electricity-generation-during-public-safety-power-shutoff>

vehicles and equipment commercially available.”²² California leads the nation in highest on-road diesel prices at \$6/gallon as compared to about \$4/gallon a year ago.²³ Given that compressed natural gas prices are \$2.86/diesel gallon equivalent, the time is now for a fuel card program that can help accelerate the turnover of diesel trucks.²⁴ By stating that “[p]rograms and projects that accelerate the commercialization of vehicles and alternative and renewable fuels including buy-down programs through near-market and market-path deployment”²⁵ are eligible for funding through the Clean Transportation Program, the Legislature has recognized the importance of scaling renewable transportation technologies.

A fuel card program could help offset the upfront costs of owning and operating a low NOx (NG)/RNG HD truck to complement existing incentive programs that CARB and air quality management district’s manage. This program is similar to the free fuel cards Toyota and Hyundai offer to customers who purchase a Mirai or Nexa, which helps incentivize leases of new hydrogen fuel cell electric light-duty vehicles. Customers who purchase a new HD class 8 NG NZE truck or hydrogen fuel cell electric truck could be provided with a fuel card pre-loaded with a balance at an amount designed to reduce fuel costs and encourage adoption. For example, for an HD Class 8 NZE truck with a \$60,000 incremental cost (compared to Diesel) traveling 72,000 miles per year, a fuel card of \$10,000 could improve the payback period from about 4.4 years to 2.5 years.^{26, 27} This is akin to the CEC’s Natural Gas Vehicle Incentive Program funded out of the Clean Transportation Program, which provided incentives up to \$25,000 per vehicle purchased.²⁸ The difference here would be encouraging NZE natural gas trucks to utilize RNG to simultaneously reduce both criteria pollutant and GHG emissions greatly. Such a program can also lay the foundation for offsetting the cost of owning a fuel cell HD truck as that technology is commercialized. SoCalGas, CARB, South Coast AQMD, and the San Joaquin Valley Air Pollution Control District (SJVAPCD) have all expressed their support for a fuel card program. Such programs have the potential to help further public health and clean air goals, especially in disadvantaged communities located near major trucking corridors and would support CARB’s goal in the 2022 State SIP Strategy to “optimize...control programs to maximize emissions reductions and provide targeted near-term benefits in those communities that continue to bear the brunt of poor air quality.”²⁹

²² See South Coast AQMD, “Draft 2022 Air Quality Management Plan (AQMP)” available at <http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2022-air-quality-management-plan/draft2022aqmp.pdf?sfvrsn=12>.

²³ On-Road Diesel Price per gallon as of September 12, 2022. <https://www.eia.gov/petroleum/gasdiesel/>

²⁴ See Clean Cities Alternative Fuel Price Report available at: https://afdc.energy.gov/files/u/publication/alternative_fuel_price_report_april_2022.pdf

²⁵ See Cal. Health & Safety Code section 44272(e)(7).

²⁶ See Advanced Clean Fleets – Cost Workshop Cost Data and Methodology Discussion Draft, CARB, p. 3, available at: https://ww2.arb.ca.gov/sites/default/files/2020-12/201207costdisc_ADA.pdf

²⁷ See Average Annual Vehicle Miles Traveled by Major Vehicle Category, Available at: <https://afdc.energy.gov/data/10309>.

²⁸ See The Natural Gas Vehicle Incentive Program, available at: <https://afdc.energy.gov/laws/11647>

²⁹ See 2022 State SIP Strategy, p. ES3

Conclusion

SoCalGas appreciates the opportunity to comment on the Proposed 2022 State SIP Strategy. It is imperative that ozone attainment and air quality policies, especially those adopted for widespread implementation and with equally widespread effects, are developed with a thorough and fact-based understanding of prospective consequences and results. A diversified decarbonized energy supply will assure equitable and sustained emission reductions in the near-term and long-term for both stationary and mobile sources. SoCalGas looks forward to collaboratively pursuing our shared interest of achieving both air quality and climate goals in California.

Respectfully,

/s/ Kevin Barker

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