California Natural
Gas Vehicle Coalition

September 12, 2022

The Honorable Liane Randolph
Chair, California Air Resources Board
1001 I Street
Sacramento, CA 95814

Dear Chair Randolph:

The California Natural Gas Vehicle Coalition (CNGVC) appreciates the opportunity to comment on the "Proposed 2022 State Strategy for the State Implementation Plan" (Proposed 2022 SIP) released on August 11, 2022. CNGVC is a diverse and dedicated coalition whose sole focus is the reduction of criteria, toxic and greenhouse gas (GHG) pollutant emissions from the heavy-duty (HD) transportation sector. Our membership includes engine and vehicle manufacturers, fleet operators, utilities and fuel providers that collectively have successfully brought to market an alternative to the diesel engine.

The deployment of HD natural gas trucks powered by carbon-negative renewable natural gas (RNG) is the most immediate and cost-effective solution to achieve near-term reductions in criteria pollutants that will improve public health. These trucks are available and in-use today and can easily be deployed at scale to provide a one-to-one replacement for the current higher-emitting diesel fleet. Yet, for the reasons discussed below, this technology has been intentionally omitted as a near-term solution in the Proposed 2022 SIP due to an overreliance on measures that contain yet-to-be-adopted goals and aspirations that present monumental hurdles and may prove incapable of achieving their promises.

Our industry was an active participant in the public process to adopt the 2017 State SIP Strategy. At that time, we were dismayed that our recommendations were not incorporated. Now California will miss its 2023 federal non-attainment deadline for the South Coast and San Joaquin Valley air basins.

That was a lost opportunity, but we are hopeful about the chance the California Air Resources Board (CARB) has to correct course with the adoption of the 2022 State SIP Strategy to ensure we meet the 2031 non-attainment deadline while achieving greater reductions in NOx tons per day during the interim. This is vitally important, especially for those low-income and disadvantaged communities within these non-attainment areas.

For those reasons, we offer the following comments and recommendations in response the proposed strategy.

Proposed 2022 SIP Fails to Prioritize Near-Term NOx Emission Reductions

The Proposed 2022 SIP neglects to address how near-term NOx emissions reductions can be immediately achieved from the HD transportation sector.

In the document's Executive Summary, staff states that "mobile sources account for about three-fourths of NOx emissions statewide[1]" and that the state's 19 non-attainment areas for the 70 ppb ozone standard "will need significant mobile source emission reductions to meet the [standard] in attainment years … 2020 through 2037.[2]" Yet, the Proposed 2022 SIP Strategy fails to include a pathway for the only technology that can significantly reduce NOx emissions today – HD low NOx trucks.

This technology, created with significant support from CARB, is immediately available and proven to reduce NOx emissions by 90 percent compared to diesel. Similarly, these trucks meet CARB's own 0.02 grams per brake horsepower-hour (g/bhp-hr) optional low NOx standard and operate on net-negative carbon RNG[3], thus resulting in the co-benefit of providing significant reductions in short-lived climate and criteria air pollutants that also help the State achieve its carbon neutrality goals.

If staff believes it is "…imperative that we optimize our 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,"[4] why compose a strategy that intentionally excludes a workable, viable and available technology that can maximize today's emission reductions and the timely achievement of attainment? Such an option should be presented to the Board for consideration.

This is a quandary that bewilders many of us fighting to improve air quality. For example, consider the comments from South Coast Air Quality Management District's (SCQAMD) Executive Officer, Wayne Nastri:

> "As the agency responsible for clean air in the greater Los Angeles area we have a statutory obligation to take all reasonable and feasible steps to reduce emissions. We face a rapidly approaching hard legal deadline in 2023 to meet the 1997 ozone standard, and 2031 for the 2008 ozone standard. The only way to get there is a massive push for cleaner heavy-duty trucks – the largest source of smog-forming emissions in our region - as soon as possible. While the amount of emission reductions needed to attain clean air standards is daunting, it would be irresponsible for our agency to effectively throw up our hands and not explore all options for reducing emissions now. Near-zero emission (NZE) technology has been

[1] Executive Summary, "Proposed 2022 State Strategy for the State Implementation Plan," Page 12.
[2] Ibid. Page 12.
[3] California Natural Gas Vehicle Partnership, "CARB Data Confirms – NGVs Fueled with Natural Gas in California are the ONLY Carbon Negative Transportation Option," Modified June 2022, https://cngvp.org/wp-content/uploads/2022/02/CARB-Data-Fact-Sheet-FINAL.pdf
[4] Executive Summary, "Proposed 2022 State Strategy for the State Implementation Plan," Page 13.

> commercially demonstrated and is available today, has sufficient fueling infrastructure that is largely funded by the private sector, and is at least 90% cleaner than new diesel trucks on NOx and 100% cleaner on cancer-causing diesel particulate matter. When fueled by renewable natural gas, these vehicles can also provide substantial greenhouse gas emission reductions. Further, these vehicles are far more cost-effective than ZE trucks, allowing limited incentive funds to stretch further. Given these benefits, it is disturbing that you advocate for investments *only* in technologies that are not yet ready for prime time, a position that would leave our residents no option but to continue to suffer the ill effects from diesel exhaust for years to come." Emphasis mine.

If SCAQMD thinks it "irresponsible" to not take "all reasonable and feasible steps to reduce emissions" and "explore all options for reducing emissions now," shouldn't CARB's approach to this plan and all future rulemakings be carried out with the same level of conviction?

Further, the Proposed 2022 SIP essentially ignores altogether the 2031 deadline spoken about above and primarily focuses on a 2037 non-attainment deadline strategy, further prolonging the health benefits that cleaner air can provide.

Proposed 2022 SIP is Over Reliant on Uncertainties and Omits the Only Immediate Viable Solution

As we stated before, the Proposed 2022 SIP contains only two measures that address NOx emissions from the HD transportation sector – Advanced Clean Fleets and the Zero Emissions Truck Measure – both of which are unadopted regulatory programs that can experience significant changes before being finalized. The former is not scheduled to be considered for full adoption until at least the first quarter of 2023, and the latter will not come before the Board for consideration until 2025.

With its overreliance on uncertain measures, the Proposed 2022 SIP purposely omits a viable technology solution. And, if the supply chain disruptions and delays discussed in the Proposed 2022 SIP document persist, even the aspirations predicted in the two aforementioned document could miss their intended deadlines. Likewise, it is unclear what, if any, action will be taken by the federal government that could affect near-term reductions.

Conversely, HD low NOx trucks powered by RNG provide a commercially adopted, cost-effective and viable solution to achieving greater NOx reductions today, especially in disadvantaged communities bearing a disproportionate level of air pollution exposure. With the exclusion of this clean technology alternative, coupled with the lack of a suitable, workable near-term strategy, this plan risks the inevitable continued use of diesel – a known toxic air contaminant – as the default fuel option.

The CARB Board should not allow diesel to become the default alternative if the widespread commercially readiness of HD zero-emission vehicles is delayed. As it stands, the Scoping Plan staff predict that at least 30 percent of HD trucks on our highways will still be diesel even after

ZEVs are fully commercially available. Diesel emissions have been identified as the number one source of NOx and toxics pollution in the South Coast and San Joaquin Valley airsheds and a major source of harmful pollution (NOx emissions) and air toxins as well as damaging SLCPs (diesel particulate matter or black carbon).

CARB should help avoid the continued use and purchase of traditional higher-emitting diesel trucks when a cleaner option is readily available, especially when that option came about through clean air funding from the Environmental Protection Agency, CARB and regional air districts. To do otherwise is counter to the policy objectives of the federal attainment and the spirit of CARB's fundamental mission.

Proposed 2022 SIP Should Avoid Misleading Policymakers with Misinterpreted Data

As previously stated in our comments dated March 4, 2022 regarding the "Draft 2022 State Strategy for the SIP," CNGVC takes exception to the statement found under the "Zero Emissions Trucks Measure" section (included below for reference) that claims, "[l]ow mileage natural gas vehicles certified to the optional 0.02 g/bhp-hr NOx emissions standard pollute in the field more than expected…."[5]

> • Low mileage natural gas vehicles certified to the optional 0.02 g/bhp-hr NOx emissions standard pollute in the field more than expected[44]; if this continues to be the case, staff commit to explore additional measures to bring natural gas vehicles into the HD I/M requirements, and any future regulations and programs designed to ensure a clean future fleet of HD trucks.

We respectfully request this unsubstantiated statement be removed, especially because it is being used to suggest a need for new regulatory measures.

While we would not necessarily oppose new regulatory measures that are properly and transparently justified, we find it very inappropriate for CARB to insinuate the presence of higher-than-expected emissions based on a study that still has yet to be finalized and for which the results in question have been recently declared "invalid" at a recent SCAQMD Clean Fuels Program Advisory Group Meeting on September 8, 2022. Yet, the underlying data is still being misinterpreted over the range of in-use duty cycles. Specifically, Footnote 70[6] cited in excerpt above directs you to a reference sheet on the study commonly referred to as the "200 Vehicle Project" but that document provides insufficient information to put the portable emissions measurement system (PEMS) results in context with the corresponding real-world engine operation.

The reference sheet shows graphical comparisons of brake-specific emissions over different in-field operation, compared to the emissions standard on the federal test procedure (FTP) cycle. It is well-known that comparing brake-specific emissions over different operation is scientifically invalid and that such misinterpretation misleads policymakers and the public into drawing false

[5] "Draft 2022 State Strategy for the State Implementation Plan," Page 50

[6] CARB, "In-Use Emission Performance of Heavy Duty Natural Gas Vehicles *Lessons Learned from 200 Vehicle Project*," July 2021, https://ww2.arb.ca.gov/sites/default/files/2021-04/Natural_Gas_HD_Engines_Fact_Sheet.pdf

conclusions about the need for new regulatory measures. For the exact same reasons, CARB's new Omnibus Low-Load Cycle has a brake-specific limit value four times higher than the corresponding FTP Cycle limit value. It is also why CARB's Clean Idle Standard is not brake-specific, but rather its limit value is in engineering units of grams per hour. Similarly, the limit value of the low-load (0-6% power) bin of CARB's new Omnibus 3-Bin Moving Average PEMS test requirement is in grams per hour. It is not brake-specific. Depicting brake-specific emissions under such low load operation shows high numeric values that are meaningless and misleading when compared to higher load operation, like the FTP.

The same is true for emissions expressed in grams per mile. For that reason, CARB's emissions inventory model, EMFAC, relies on an exponential "Speed Correction Factor" that reaches toward an infinitely high value at zero average vehicle speed. This is to *correct* for low vehicle speed operation resulting in meaninglessly high grams per *mile* numeric values, when in fact the grams per *hour* emissions rate remains relatively flat, when comparing low and high vehicle speed emissions.

We strongly urge CARB to remove the above paragraph and the footnoted reference sheet from the Proposed 2022 SIP. Similarly, the Board should instruct staff to refrain from making references to or relying on this misinterpreted data in any future public comments, written documents or subsequent rulemaking until the full report is updated and released for public and peer review. This will ensure open and transparent data interpretation and scientifically valid discussion with the common end goal of well-informed policymaking.

Referencing such a misleading and prejudicial reference sheet, undermines the credibility and validity in the science expected in the rest of the effort. There can be no context derived from the results shown in the reference sheet. How do other technologies perform given separate and unequal testing? How do the results compare to EMFAC model expectations, as a function of duty cycle average power and average vehicle speed?

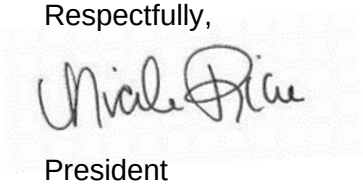
The basic unit of measurement for certification and sale of a heavy-duty engine in California is grams per brake horsepower-hour [g/bhp-hr], in which the emissions rate in grams per hour is divided by average power. We are concerned that the data is out of context as different duty cycles inherently have different average power requirements when compared to the FTP, even if at the same emissions rate. Only the emissions *rate*, in grams per hour (or tons per day) matters with respect to air quality.

Conclusion

The Proposed 2022 SIP as drafted is akin to a pro-diesel strategy primarily focused on meeting attainment in 2037. It does not address near-term NOx emissions reductions. Instead, it relies on two long-term measures for the HD transportation sector that have yet to be adopted and still could change, and it relies on federal support that may not even come. Relying on uncertain promises and assistance while ignoring the certainty that comes with using low NOx trucks as a clean, immediately available solution places federal attainment goals needlessly in jeopardy.

The policy pursuit is not a technology preference (ZEV vs. Low NOx) but rather the advancement of ALL clean truck alternatives (ZEV plus Low NOx) to displace higher-emitting diesel as soon as feasible. With the widespread commercialization of HD ZEVs not available for at least another decade or more, the Proposed 2022 SIP will likely need to depend on measures from other sectors to make up for the deficiencies now planned for HD transportation. We welcome the opportunity to discuss our position further. Feel free to contact me at (916) 426-7601 nicolerice@cngvc.org if you have any questions.

Respectfully,



President
California Natural Gas Vehicle Coalition

cc: CARB Board Members
Ms. Jamie Callahan, Chief of Staff and Policy Advisor to the Chair, California Air Resources Board
Ms. Lauren Sanchez, Senior Advisor for Climate, Office of Governor Gavin Newsom
Ms. Hazel Miranda, Deputy Legislative Secretary, Office of Governor Gavin Newsom