



California Natural  
Gas Vehicle Coalition

NGVAMERICA  
Natural Gas Vehicles for America

June 20, 2022

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

**RE: Comments on the Draft 2022 Scoping Plan Update**

Dear Chair Randolph:

The California Natural Gas Vehicle Coalition (CNGVC) and Natural Gas Vehicles for America (NGVA) are pleased to submit the following comments on the Draft 2022 Scoping Plan Update (Draft Update) released on May 10, 2022. Collectively, we represent a dynamic and innovative industry made up of many stakeholders who are leaders in the effort to mitigate climate change impacts and clean the air.

As our comments suggest, the Draft Update provides a tremendous opportunity for the California Air Resources Board (CARB) and other state agencies to provide meaningful guidance to address heavy-duty truck decarbonization and criteria air emissions both today and in the future. It is clear from the Draft Update that infrastructure buildout and grid reliability needed to support fleet electrification will take considerable time and funding to achieve. Additionally, total costs, fleet and energy affordability as well as private investment options remain questionable.

Proposed Scenario No. 3 (which we support in concept) attempts to address some of these concerns by providing more time to transition the entirety of the transportation system. However, the Draft Update still lacks a comprehensive strategy for capturing near-term reductions, which are achievable using technologies and fuel types (like low NOx engines powered by renewable natural gas) that are cost-effective, privately funded and readily available today.

There is no urgency in the Draft Update to replace older, higher-polluting medium- and heavy-duty (MHD) diesel-fuel trucks. **Therefore, we urge CARB to seize the opportunity to realize emission reductions today and during the years leading up to the 2045 goal. In addition, CARB should include language in the Draft Update that not only allows for, but directly encourages, deployment of the cleanest technology available to achieve near-term emission reductions while zero-emission vehicles are scaling up.**

## CONCEPTS WE SUPPORT UNDER THE DRAFT UPDATE:

- **Carbon Neutrality: Support for Proposed Scenario Number 3**

We embrace any alternative fuel that displaces diesel and provides an immediate dramatic decrease of greenhouse gas emissions and criteria pollutants. There must be another option besides encouraging fleets to choose diesel if heavy-duty zero-emission vehicles (HD ZEVs) are not available.

We support Proposed Scenario No. 3 for achieving carbon neutrality which the Draft states "...is more feasible than Alternative 1 and Alternative 2 due to the longer time frame for clean technology and fuel deployment...The additional 10 years for achieving carbon neutrality also allow for technologies to scale and be deployed at lower costs. The Proposed Scenario provides significant health benefits in 2045...and has the least slowing effect on employment and economic growth." However, setting out realistic expectations and including technologies that will actually be available is critical to developing a successful plan.

The Draft Update therefore should acknowledge that HD ZEVS are not expected to achieve wide scale commercial readiness before the 2030 deadline required in SB 32. In addition, even the much-later 2045 deadline in Governor Newsom's Executive Order to electrify the heavy-duty transportation sector is a "where feasible" goal. We urge CARB to recognize the near-term benefits of low NOx trucks operated on renewable fuels.

An electrification-only scenario falls short by not immediately reducing GHG emissions with available technology as well as significantly mitigating methane, black carbon and smog-forming emissions from diesel fueled heavy-duty vehicles this decade. We urge CARB to pursue a strategy that prioritizes the rapid phase out of diesel vehicles and encourages continued use of renewable fuels in near-zero emission trucks until truly commercial heavy-duty ZEV alternatives are available. The Proposed Scenario already correctly includes bioenergy and renewable hydrogen but should include specific recommendations to accelerate their use.

Encouraging greater uptake of bioenergy, particularly renewable natural gas, will provide immediate and significant greenhouse gas reductions. The average carbon intensity value for all renewable natural gas (RNG) sold into California's transportation sector for all of 2021 on average was -33.36. This is the lowest carbon transportation fuel available on the planet. Consequently, RNG use combined with low NOx 0.02g engines in heavy-duty transportation should be encouraged as a core strategy to achieving the purpose and credibility of the 2022 Scoping Plan Update.

- **Focus on Reducing Short-Lived Climate Pollutants**

We are encouraged that the Draft makes prominent the case to significantly reduce methane and black carbon emissions. We agree that the Scoping Plan should meet statutory requirements to reduce climate pollution and nothing can do this more effectively than renewable fuels when displacing diesel (a major source of black carbon), given their low carbon intensities. Additionally, RNG is the most advantageous as its production and

displacement of diesel eliminates two of three identified Short Lived Climate Pollutants (SLCPs).

- **Continued Dairy and Livestock Methane Reductions**

We strongly support CARB's science-based conclusion in the Draft related to dairy and livestock methane reductions. Excluding or diminishing the inclusion of all fuels derived from dairy and swine manure would result in a substantial release of greenhouse gas emissions into the atmosphere and maintain diesel as the dominant fuel in California's heavy-duty transportation sector despite black carbon being a major SLCP.

There is substantial danger to the climate if the dairy and swine industries are not provided the tools and incentives to properly mitigate manure emissions and prevent leakage, which is why we strongly agree with the statement made by CARB staff that "...further reductions of approximately 4.4 MMTCO<sub>2e</sub> of methane will be needed to achieve the 2030 methane emissions reduction target for the sector set by SB 1383...If the remaining reductions are met through a mix of dairy projects in which half are dairy digesters and half are alternative manure management projects, then it is estimated that at least 420 additional projects will be necessary. Additional emissions reductions beyond this level will likely be necessary to ensure that the overall state methane emissions reduction targets are met."

- **Continued Landfill Methane Reductions**

We appreciate the Draft highlighting the problem that annual landfill methane emissions will be higher through 2030 than originally anticipated because the state did not achieve reductions in organic waste disposal of 50 percent below 2014 levels by 2020. Therefore, we support the following stated under "Strategies for Achieving Success:"

- Maximize existing infrastructure and expand it to reduce landfill disposal, with strategies including composting, anaerobic digestion, co-digestion at wastewater treatment plants, and other non-combustion conversion technologies.
- Utilize existing digesters at wastewater treatment facilities to rapidly expand food waste digestion capacity.
- Direct biomethane captured from landfills and organic waste digesters to sectors that are hard to decarbonize.
- Implement improved technologies and best management practices at composting and digestion operations.
- Reduce emissions from landfills through improvements in operational practices, lower permeability covers, advanced collection systems and technologies to utilize landfill gas.
- Leverage advances in remote sensing capabilities to quickly pinpoint large methane sources and mitigate leaks and improve understanding of the factors that lead to better capture efficiency and explore new technologies and practices that can reliably improve methane control.

## CONCEPTS THAT NEED FURTHER CLARIFICATION

### LOW CARBON FUEL STANDARD

We are pleased with the expressed commitment to not only continue with the Low Carbon Fuel Standard (LCFS) but that CARB intends to evaluate and propose accelerated carbon intensity targets pre-2030 and post-2030. However, the Draft is not clear that biomethane will continue to be supported by CARB and incentivized for end-use in the heavy-duty transportation sector, especially as a “hard-to-decarbonize” sector. We strongly support continued and increased incentives for biomethane end-use in the heavy-duty transportation sector as an immediate cost-effective GHG and criteria pollutant reduction strategy, including continued deep negative carbon intensity scores which have been successful in driving the market and achieving substantial greenhouse gas emission reductions.

We request clarification on the following:

- The Draft states, “In addition to building the production and distribution infrastructure for zero-carbon fuels, the state must continue to support low-carbon liquid fuels during this period of transition and for much harder sectors for ZEV technology such as aviation, locomotives, and marine applications. Biomethane currently displaces fossil fuels in transportation and will largely be needed for hard-to-decarbonize sectors but will likely continue to play a targeted role in some fleets while the transportation sector transitions to ZEVs.”
  1. Is heavy-duty on-road transportation considered a “hard-to-decarbonize” sector? How is “some fleets” defined?
  2. How does CARB view biomethane playing “a targeted role” in heavy-duty transportation? The draft Advanced Clean Fleets (ACF) regulation requires all new vehicles to be a ZEV by January 1, 2024 unless an exemption is granted by the Executive Officer in an opaque and non-transparent process. This statement and the draft ACF do not appear to be in alignment.
  3. Will carbon intensity scores continue to be negative? If so, will a limit be established? Will there continue to be an incentive to achieve the lowest negative carbon intensity score possible per the Scoping Plan’s positions on SLCP, dairy and swine operations and landfill methane? The negative scores are driving the market and incentivizing fleets to switch from diesel to lower carbon alternative technologies. Without these negative scores projects are not likely to proceed. Even with them, given the current low LCFS prices, existing planned investment in projects are increasingly challenged.
  4. Will there be any new provision in the LCFS that would curb incentives for biomethane used as a transportation fuel? The LCFS is a highly successful program that is decarbonizing California’s transportation fuels. Any attempt to redirect end-uses for biomethane away from transportation to other applications that don’t have similar incentives programs (i.e. buildings) will have a substantial detrimental impact on the biomethane market.

5. The draft states, “Monitor for and ensure that raw materials used to produce low-carbon fuels or technologies do not result in unintended consequences.” This is not defined or expanded upon in the document. What does this mean? Will this also be the case for lithium-ion battery production, post-use disposal, safety and fire prevention? Is electricity transmission and overall grid development, as well as adequate California power supply, also a topic for monitoring in order to support ZEV expansion? If not, why?

## **CHANGES NEEDED FOR INCLUSION**

### PRIORITIZE NEAR-TERM EMISSIONS REDUCTIONS

With an unprecedented 25-year horizon in this Draft Update, the section on technology transformation states, “The Draft 2022 Scoping Plan starts—and ends—with a focus on communities that continue to be burdened by air pollution and will be hardest hit by the impact of climate change and rising temperatures.” However, this section expressly and exclusively focuses on the establishment of a zero-emission vehicle (ZEV)-only goal.

We remain skeptical about this single technology goal focused on zero-tailpipe for the heavy-duty sector given the limited vehicle availability, lack of resources and time it takes to install infrastructure and recent concerns over the grid’s ability to meet demand. We are also concerned about the near-term carbon emissions from the grid, and lack of planning for and recycling infrastructure for lithium-ion batteries. Therefore, the dichotomy between the need to unburden disadvantaged communities now versus the long-term timeline for widescale HD ZEV commercial availability is not reconciled. With the heavy-duty transportation sector being the largest emission source of greenhouse gases and NO<sub>x</sub>, the Draft strategy falls short in delivering on the emissions necessary to alleviate the burdens imposed on these communities.

**Proposed Amendment:** While we support a strategy that includes both ZEV and near-zero technologies to immediately reduce SLCP and criteria pollutants to help meet the state’s emissions goals, absent commercially available HD ZEVs, the Draft should be amended to include a strategy to utilize vehicles with low NO<sub>x</sub> engines operating on renewable fuels.

This is especially important for the beginning and medium-term timeline of the ACF regulation wherein most exemptions will be granted due to the lack of HD ZEV availability in multiple applications meeting a wide array of fleet duty cycles, and thus resulting in diesel trucks remaining the predominant replacement vehicle. ACF as currently drafted supports new diesel purchases if ZEVs and NZEVs (as defined) are not available which is counter to the state’s goals of eliminating harmful diesel.

### PROVIDE DATA-DRIVEN CONCLUSIONS FOR NEAR-TERM AVAILABILITY OF HEAVY-DUTY ZEVS

The Draft states, “Given the climate mitigation co-benefits, critical actions to deliver near-term air quality benefits, such as those included in the draft State Implementation Plan (SIP) to achieve the federal air quality standards, are incorporated into this Draft Update, as are new legislative mandates to decarbonize the electricity and cement sectors.” The draft SIP states, “CARB has numerous programs already in place to control emissions from medium- and heavy-duty vehicles

including the Truck and Bus Regulation, Heavy-Duty Omnibus, Advanced Clean Trucks, as well as incentive programs such as the widely successful Carl Moyer Program.”

It is important to note that only two new measures are included in the draft SIP to address the heavy-duty transportation sector: the proposed Advanced Clean Fleets regulation and the proposed Zero Emissions Truck Measure. Neither have been adopted and the latter isn’t expected to be considered for adoption until 2025 and will not have an impact until post-2037. The draft SIP provides further stipulation by stating, “The detailed actions that CARB staff will ultimately propose to commit to in the Proposed 2022 State SIP Strategy are still being developed at this time.”

We are concerned with CARB’s general approach/assumption that medium- and heavy-duty ZEVs will be available when needed in all classes of vehicles, for all duty-cycles, for all commercial sectors, and for all geographic regions of the State. We understand this is an assumption based on the prospect of technology advancement, yet staff has not produced any analysis providing support for such an assumption. Rather staff has adopted the philosophy of “only ZEVs” with limited exemptions given if regulated parties can demonstrate they cannot purchase a “vehicle configuration [that] is not commercially available with a ZEV or NZEV powertrain at the time the Internal Combustion Engine Vehicle is purchased.” This equates to reverse rulemaking, whereby regulated entities are required to prove technological infeasibility AFTER rule adoption, rather than CARB determining technology feasibility PRIOR to adoption.

We have not received any evidence from CARB that HD ZEVs are and will be commercially available in the near-term for all segments and fleet operations at scale with the requisite charging infrastructure, cost compatibility, range, a one-for-one replacement for current diesel vehicles, etc.

There are limited commercially available HD ZEVs and we expect a few manufacturers to release some more product on the market this and next year. However, these will be for limited segments and limited fleet operations. HD ZEVs will continue to be phased in over time as battery and fuel cell technology advances, so we need immediate alternatives to displace diesel. California must be prepared for a phased-in transition that significantly encourages the utilization of existing technologies and low carbon fuels. Underscoring this point further is the fact that there is \$520 million in unredeemed vouchers in the HVIP program for ZEV projects, an indication these vehicles are not commercially available and viable.

#### RECOGNIZE & ACCOUNT FOR INFRASTRUCTURE DELAYS AND TIMING

The vast majority of fleets impacted by ACF do not currently have charging infrastructure in place to support the EV deployments and there is no public-access charging solution currently available for MD/HD electric trucks. Even if a fleet is able to identify a truck that will meet their operational needs, they will not be able to operate the electric truck for at least 9 months based on the infrastructure build timelines laid out by the State’s major electric utilities. **According to 3 main Investor-Owned Utilities in the State, electric charging infrastructure development timelines range between 9 to 16 Months.** Having charging infrastructure in place is essential to deployment and should be a principal element to the regulations and potential fleet compliance. This also assumes electricity will be available and upstream connections will be in place.

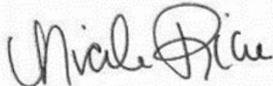
Additionally, charging infrastructure will need to make significant advances which is closely linked to the battery technology. Beyond 150kw charges advancing to megawatt applications for vehicles and fleets requires significant development along with advances in batteries to accept and safely manage such rates of energy transfer. Vehicles and the current charging capability can be expected to dramatically evolve to meet full duty cycle applications. Consequently, current fleet investment in charging will need to be replaced as feasibility of applications advances.

## **Conclusion**

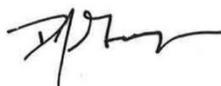
We are pleased to express support for several provisions in the Draft but remain highly concerned about the others, as discussed above. We are also concerned about the short-comings of the ZEV-only approach and the fact that an assessment has not been released analyzing alternative technologies; this includes exploring what the outcome would be if such strategies were encouraged but ZEVs and NZEVs (as defined under the proposed ACF regulation) are not available.

We look forward to continuing to work with CARB to amend the Draft Update to better benefit the State of California. We appreciate your consideration of our views.

Sincerely,



Nicole Rice  
President  
California Natural Gas Vehicle Coalition



Dan J. Gage  
President  
Natural Gas Vehicles for America