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July 26, 2024

Advanced Clean Cars II Workshop
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Submitted via the Workshop Comment Submittal Form

Re: Comments on the CARB Public Workshop: Amendments to the Advanced Clean Cars II (ACC II) Regulations

The Western States Petroleum Association (WSPA) appreciates the opportunity to comment on the June 26, 2024, public workshop held by the California Air Resources Board (CARB) on the proposed amendments to the ACC II Regulation. WSPA is a non-profit trade association that represents companies that export for, produce, refine, transport and market petroleum, petroleum products, natural gas and other energy supplies in California and four other western states, and has been an active participant in air quality planning issues for over 30 years. WSPA has actively participated in the development of ACC II through several comment letters. All previous comment letters have been included as attachments to this letter and are incorporated by reference herein. WSPA offers the following additional comments on CARB's proposed amendments to ACC II.

To summarize the main points of this letter:

- CARB must fully consider zero-emission vehicle (ZEV) lifecycle impacts.
- CARB's proposed internal combustion engine vehicles (ICEV)-only fleet-wide averaging measures should not be characterized as an "anti-backsliding" requirement and are inconsistent with the current Federal approach to fuel economy standards.
- CARB must quantitatively analyze total fine particulate matter impacts due to heavier ZEVs.
- CARB's findings in support of ACC II rely on outdated and inaccurate automaker commitments.
- CARB must consider regulatory alternatives that increase allowances for plug-in hybrid electric vehicles (PHEV) in the fleet purchase mix or allow for use of alternative fuels in ICEVs consistent with its rulemaking obligations, such as:
 - (1) An alternative with no further PHEV- or ICEV-related restrictions and an increase of allowed PHEVs within the final fleet purchase mix; and
 - (2) An alternative allowing ICEVs using alternative fuels, like hydrogen and more ethanol.

CARB must provide a fair and objective analysis of regulatory alternatives. The California Environmental Quality Act (CEQA) requires CARB to assess regulatory alternatives in light of their cumulative impacts (Cal. Code Regs., tit. 14, § 15130). Similarly, Health & Safety Code (HSC) § 57005 requires CARB to consider any less costly but equally effective alternatives. In prior rulemakings, including the 2022 Scoping Plan Update and current ACC II rules, CARB has consistently failed to adequately consider liquid fuel alternatives¹ would not support the State's goals for reducing greenhouse gases (GHG) and criteria pollutants such as ozone, particulate matter

¹ The Low-Carbon Fuel Alternative includes low-carbon liquid fuels such as bio-based gasoline and renewable diesel. These lower-carbon alternative fuels coupled with improved internal combustion engine technologies may be able to reduce GHG emissions in the near- to midterm. CARB staff considered requiring vehicles to be fueled with a minimum percentage of low-carbon fuels rather than requiring ZEV sales from manufacturers.

Chevron. Low Carbon Fuel Standard (LCFS) Comment Re: Crop-based Fuels Guardrails. February 19, 2024. Available at: <https://www.arb.ca.gov/lists/com-attach/6825-lcfs2024-WjlcMII2AicDd1M8.pdf>. Accessed: July 2024.

(PM), and oxides of nitrogen (NO_x).² However, CARB cannot reasonably reject these alternative technologies in favor of a ZEV-forcing mandate without establishing a comparable rubric for all alternatives to objectively evaluate the emissions impacts and provide a forum with fair representation from all sides to discuss these issues in depth.³ At minimum, this rubric must include: (1) an evaluation of total lifecycle GHG emissions, as well as total PM emissions impacts; and (2) an evaluation of the time-value benefit of criteria emission reductions that can be more rapidly achieved using the existing fleet of vehicles.

WSPA strongly believes that reducing GHG and criteria pollutant emissions using sustainable biomass-based feedstocks is an affordable, reliable option to include in any arsenal of approaches to meet the State's goals. In the past few decades, we have seen criteria emissions drop for ICEVs due to policy and improvements in vehicle and fuel technology.⁴ Emission reductions can continue to be achieved in the future with advances in technology. Yet California's policy of technology exclusion slows down emission reduction opportunities that could be implemented more quickly.⁵

CARB has not provided a fair and objective analysis within the development of ACC II by holding these lower-carbon fuel alternatives to different standards as the ZEV-forcing proposal. Consistent with its rulemaking obligations under both CEQA and the Health & Safety Code, CARB must reasonably and fairly consider broader impacts when making decisions regarding these proposed rule changes, such as keeping or removing ZEVs from the fleet average, further restricting PHEV availability through stricter proposed ICEV requirements, and failing to incentivize the usage of lower-carbon intensity (CI) fuels.

We look forward to continuing to work with CARB through this important process. Our detailed comments are provided below:

1. CARB must assess lifecycle GHG ZEV emissions, including but not limited to battery production emissions.

As WSPA has explained in previous comment letters, CARB cannot adequately evaluate the impacts of the ACC II regulation or the effectiveness of regulatory alternatives (such as alternative fleet mixes), consistent with its obligations under CEQA and HSC, without considering ZEV lifecycle impacts, including upstream fuel cycle GHG emissions and GHG emissions associated with vehicle production changes, such as ZEV battery manufacturing. CARB's current analysis in support of the proposed ACC II amendments continues to ignore important lifecycle impacts, including ZEV fueling and emissions from new electricity generation to support increased grid demand associated with ACC II. According to the 2022 Scoping Plan Update, over 58,750 gigawatt-hours of energy will be required to support light

² CARB. Summary of Comments to Overall ACC II Regulations and Agency Responses. August 2022. Available at: <https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2022/accii/fsorappa.pdf>. Accessed: July 2024.

³ CARB excluded renewable gasoline alternatives in the Scoping Plan and ACC II evaluations due to indirect land use change emission concerns and availability of feedstock supplies for scalable products, but did not consider such impacts based on the manufacture and sourcing of critical minerals for electric vehicles.
CARB. Response to Comments on the Draft Environmental Analysis for the 2022 Scoping Plan. December 13, 2022. Available at: <https://ww2.arb.ca.gov/sites/default/files/2022-12/2022-sp-appendix-b-response-to-comments.pdf>. Accessed: July 2024.

CARB. Summary of Comments to Overall ACC II Regulations and Agency Responses. August 2022. Available at: <https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2022/accii/fsorappa.pdf>. Accessed: July 2024.

⁴ Stillwater Analysis using NO_x Source: EPA, Office of Transportation and Air Quality, pers. comm., Apr. 30, 2021; PM Source: EPA, Office of Transportation and Air Quality, personal communication, Apr. 30, 2021

⁵ Fleet turnover to new technology vehicles will be slow due to higher vehicle costs and the required installation of new infrastructure. This hinders progress towards replacing the oldest, dirtiest heavy-duty ICEVs and makes a single-track ZEV adoption approach a less economical and slower way to a cleaner vehicle fleet than reducing GHG emissions from ICEVs in the immediate term.

Stillwater Associates. Decarbonizing Combustion Vehicles. July 2023. Available at: https://www.transportationenergy.org/wp-content/uploads/2023/07/Decarbonizing-Combustion-Vehicles_FINAL.pdf. Accessed: July 2024.

duty vehicles in 2045 and nearly 180,000 megawatts of new generation will be required across the State in total.⁶ This approach skews CARB's analysis in favor of ZEVs and prevents the Agency from equitably considering regulatory alternatives, such as alternative fleet mixes, that could achieve the same or greater overall GHG emission reductions as the current ACC II requirements, likely with lower costs, in violation of HSC § 57005. Further, by omitting key impacts from its analysis, CARB fails to comply with its mandatory obligations for environmental assessments in accordance with CEQA (Cal. Code Regs., tit. 14, § 15130).

A lifecycle assessment is also critical to meeting other statutory requirements. CARB has a responsibility to minimize the "leakage" potential of any regulatory activities, pursuant to HSC § 38562(b)(8). As part of this responsibility, CARB must analyze the potential for emissions reduction activities in the State to be offset by an equivalent or greater increase in GHG emissions outside the State. This analysis requires estimating emissions impacts outside the State *from a lifecycle perspective*, which CARB has failed to do. GHG emissions, as contrasted with criteria or toxic air pollutants, result in cumulative impacts on a global scale. CARB must adequately account for upstream and downstream emissions associated with ZEVs in order to fulfill this statutory obligation.

As noted in WSPA's letter submitted on May 31, 2022,⁷ and reiterated in the letter submitted January 15, 2024,⁸ CARB previously excluded the following lifecycle GHG emissions and impacts from its analysis for ACC II:

- Upstream fuel cycle GHG emissions from out-of-state fuel production and transportation activities for California reformulated gasoline (CaRFG) and hydrogen (H₂); and
- GHG emissions associated with vehicle production changes required by the proposed regulation, which may be particularly significant for minerals extraction and processing and battery production, transportation, and disposal impacts for battery electric vehicles (BEVs) that are not part of the baseline for ICEVs.

In its previous letters, WSPA emphasized that vehicle production cycle emissions for a model year (MY) 2026 BEV (10.1 metric tons (MT) CO₂e per vehicle) were about 74% higher than those for a MY 2026 ICEV (5.8 MT CO₂e per vehicle), increasing further if the BEV undergoes a battery replacement (15.5 MT CO₂e per vehicle).⁹ The significant emission increases associated with the production of a BEV, as compared to an ICEV, should have been included in CARB's emission analysis to fully understand the impacts of the ACC II regulation. Ramboll previously conducted an analysis of California's light-duty auto (LDA) fleet to evaluate whether alternative vehicle technology and fuel pathways could achieve lifecycle GHG emission reductions similar or greater than the ACC II proposal ("Ramboll LDA Study"). Unlike CARB's analysis, Ramboll has evaluated the full lifecycle impacts of ZEV technologies under the ACC II proposal to more completely characterize the potential near-term and long-term GHG emissions performance and considers other pathways that would not require a replacement of the entire transportation infrastructure system. These fleet mixes included deploying PHEV or hybrid electric vehicles (HEVs) in the place of ZEVs under the ACC II schedule, the phase-in of low-CI fuels, and combinations of

⁶ CARB. Figures 4-5 and 4-6 of 2022 Scoping Plan Update. December 2023. Available at: <https://ww2.arb.ca.gov/sites/default/files/2023-04/2022-sp.pdf>. Accessed: July 2024.

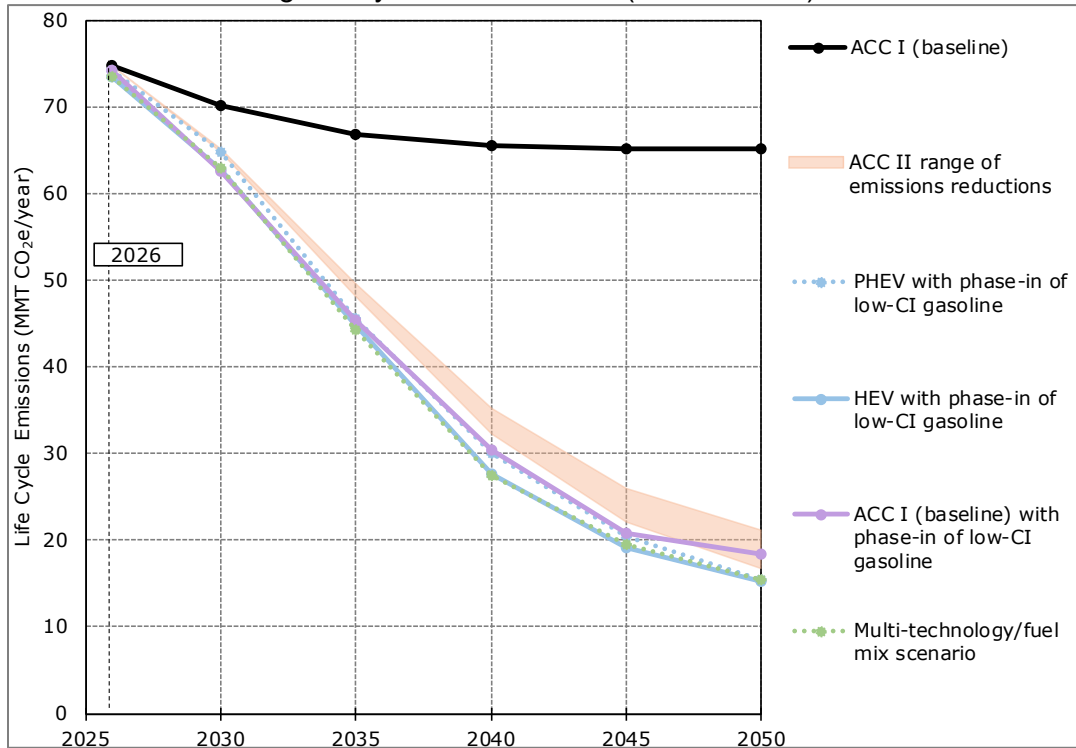
⁷ WSPA. Comments on ACC II Regulation Initial Statement of Reasons (ISOR) Documents. May 31, 2022. Available at: <https://www.arb.ca.gov/lists/com-attach/477-accii2022-AHcAdQBxBdZSeVc2.pdf>. Accessed: July 2024.

⁸ WSPA. Comments on the CARB ACC II Amendments Kick-Off Workshop. January 15, 2024. Available at: <https://ww2.arb.ca.gov/form/public-comments/submissions/7916>. Accessed: July 2024.

⁹ Figure 3-5 of Ramboll LCA Study. May 31, 2022. Available at: <https://www.arb.ca.gov/lists/com-attach/477-accii2022-AHcAdQBxBdZSeVc2.pdf>. Accessed: July 2024.

the different scenarios with BEV and fuel cell electric vehicles (FCEV) technologies.¹⁰ As shown in Figure 1, the study demonstrated that GHG emission goals can be met through many different technology mixes, which further demands that CARB look at these lifecycle emissions when conducting the ACC II amendments.

Figure 1: Lifecycle GHG Emissions for Key Scenarios in the Ramboll LDA Study California Light Duty Automobile Fleet (2026 to 2050)¹¹



CARB's current proposal further narrows the scope of its GHG inventory to solely include the tailpipe emissions generated by vehicles in the fleet, in violation of CARB's statutory obligations. This approach completely disregards the GHG emissions impacts associated with ZEVs. An adequate assessment of ZEV emissions impacts must evaluate impacts associated with battery production, transport, and disposal or recycling, which present significant emissions and waste impacts, and must also consider how increased demand on the electric grid due to significantly increased ZEV use will require additional increases in electric utility construction, which will likely include gas units to make up for the intermittency of renewable resources such as wind and solar. GHG emissions are not a localized issue, and instead are properly considered through a lens of cumulative impacts on a global scale. As such, there is no basis for regulating a source of GHG emissions without consideration of the lifecycle emissions of the process. Developing a policy to reduce GHG emissions solely from vehicles' tailpipes while ignoring any potential source of emissions from non-ICEVs runs counter to the intent of California's Assembly Bill (AB) 32 (2006) Scoping Plan and interferes with the State's ability to meet its ambitious climate goals.

Accounting for lifecycle emissions is necessary for CARB to fulfill its legal duty to conduct a reasonable assessment of the effectiveness of alternatives and the significant impacts to the State's economy of all scenarios.

¹⁰ Ramboll LCA Study. May 31, 2022. Available at: <https://www.arb.ca.gov/lists/com-attach/477-accii2022-AHcAdQBxBDZSeVc2.pdf>. Accessed: July 2024.

¹¹ Ibid.

Commenters have submitted significant evidence¹² showing that there are several fleet mix options that would support similar if not greater overall GHG emission reductions as the current ACC II requirements on a lifecycle basis, including the deployment of lower-CI fuels. Despite this, CARB's proposal continues to incentivize BEVs at the expense of these alternative technologies, including measures that would selectively ratchet down standards for combustion technologies while providing more flexibility and more lenient standards for their battery-electric counterparts. These alternative technologies are crucial for achieving GHG emission reductions in the early years of ACC II due to multiple implementation challenges, including but not limited to supporting electric vehicle (EV) transmission, distribution, and charging facilities (particularly public charging facilities to support communities with predominantly multi-family dwellings). This infrastructure will not be sufficiently available for 10 or more years. In the interim, it is crucial that CARB's regulations allow for a wider variety of PHEVs and ICEVs in the fleet mix.

2. CARB should not include ICEV-only fleet-average GHG standards as an “anti-backsliding” measure.

CARB's ICEV-only fleet-wide averaging measures are inconsistent with the United States Environmental Protection Agency's (EPA) approach to fuel economy standards, which provides more flexibility for manufacturers to achieve reductions on a fleet-wide basis.¹³ Instead, CARB's proposal penalizes manufacturers for electrifying lower-emitting ICEVs, since the remaining ICEVs would be higher emitting on average, even though overall fleet emissions would be lower and no “backsliding” of the program's stringency would occur.

Under Government Code § 11346.2(b)(4)(A), when CARB proposes a regulation that would mandate the use of specific technologies or equipment, or prescribe specific actions or procedures, it must consider performance standards as an alternative. CARB's current ZEV mandate in ACC II improperly imposes a technology standard without giving due consideration to equivalent performance standards. CARB's proposed program updates would exacerbate this issue by improperly tightening regulations for ICEVs that remain in the fleet. In particular, CARB is proposing to include ICEV-only fleet-average GHG standards. By assessing only ICEVs, manufacturers would effectively be penalized for electrifying lower-emitting ICEV models to comply with ACC II's existing ZEV sales mandate, since the remaining ICEVs in the fleet would be higher-emitting on average, even though the overall fleet emissions would be lower. The removal of ZEVs from the fleet average and simultaneous pressure on ICEVs to reduce emissions forces manufacturers to either make parallel investments in both ZEV and ICEV technologies or accelerate an already rapid transition to ZEVs. Manufacturers should retain flexibility to choose which investments to make and to electrify sections of their fleets in steps, rather than being forced into an “all or nothing” approach.

CARB's proposed “flexibility” for transferring excess ZEV credits to comply with Low-Emission Vehicle (LEV) requirements does not resolve this issue. In order to generate these credits, manufacturers would be forced to invest almost exclusively in ZEVs, rather than a broader range of emission-reduction technologies. CARB has provided no real evidence that fleet-averaging would result in a significant increase in GHG emissions from ICEVs or rationale for why any such marginal increases would be to the detriment of the State's goals if the overall fleet-average standards are met.

¹² Ibid.

¹³ In arguing that CARB's rules should be consistent with EPA's, WSPA takes no position on whether EPA itself has authority to employ fleetwide-average standards. EPA's statutory authority to set fleetwide-average standards is currently being challenged in *Texas v. EPA*, No. 22-1031 (D.C. Circuit), where petitioners have argued that the Clean Air Act requires that emission standards under Section 202(a) must apply to individual vehicles, not manufacturers' fleets.

These ICEV-only fleet-wide averaging measures are inconsistent with EPA's current approach to fuel economy standards. EPA's standards "apply to all passenger automobiles or light-duty trucks sold by a manufacturer in a given year." See *Green Mountain Chrysler Plymouth Dodge Jeep v. Crombie*, 508 F. Supp. 2d 295, 306 (D. Vt. 2007). EPA's approach rewards fleet-wide reduction measures, and CARB's departure from this approach will disincentivize key reduction measures, in violation of AB 32's mandate requiring CARB to adopt emissions reduction measures "to achieve the maximum technologically feasible and cost-effective reductions." See HSC § 38562.

CARB has suggested that this averaging approach is needed as an "anti-backsliding" provision, explaining in its June 2024 workshop presentation that "with fleet averaging, increasing ZEV sales create ICE[V] backsliding risk."¹⁴ However, in traditional regulatory usage, "backsliding" refers to subsequent measures that are *less* stringent than prior requirements. For example, under Senate Bill (SB) 288 (2003), California's new source review regulations, as implemented by the air quality management districts, cannot be amended or revised "to be *less stringent* than those that existed on December 30, 2002." (HSC § 42504(a) [emphasis added].) CARB's proposed revisions to fleetwide average standards go far beyond merely preventing backsliding and instead would significantly tighten regulations for ICEVs that remain in the fleet.

WSPA supports CARB's efforts to achieve emission reductions, consistent with statewide reduction goals, and has consistently supported innovative technologies, such as liquid fuels, that would support these goals. However, CARB's proposed averaging approach regulates vehicle fleets in a piecemeal manner that penalizes ICEVs and limits technological innovation. As explained above in Comment 1, these ICEVs and PHEVs could provide similar or better emission reductions as the proposed scenario and should not be artificially restricted.

3. CARB's analysis of particulate matter exhaust emissions must account for non-exhaust fine particulate matter (PM2.5) emissions impacts from brake wear, tire wear, and entrained road dust and determine whether the net effect of the proposed action will cause or contribute to nonattainment with National Ambient Air Quality Standards (NAAQS).

As CARB explained in its 2022 State Implementation Plan Strategy,¹⁵ PM2.5 pollution poses a significant health risk in California, with low-income and disadvantaged communities across the State disproportionately bearing the brunt of these impacts. It is therefore critical that CARB's strategies to address PM2.5 exposure consider the holistic impacts to the State's PM2.5 inventory. As currently proposed, CARB's strategy fails to consider impacts to brake wear, tire wear, and entrained road dust, and risks increasing PM2.5 emissions overall by failing to account for increased emissions due to heavier ZEVs.

While significant progress has been made in reducing PM2.5 in key air basins, challenges with attaining the latest PM2.5 NAAQS have only increased. The South Coast and San Joaquin Valley Air Basins are still in nonattainment with the 2012 PM2.5 NAAQS and will likely remain in nonattainment in the absence of Federal action.¹⁶ In March 2024, EPA

¹⁴ CARB. Advanced Clean Cars II Amendments Second Public Workshop. June 26, 2024. Available at: https://ww2.arb.ca.gov/sites/default/files/2024-06/2024_06_26_ACC%20II%20Amendments%20Workshop%20Presentation_ADA.pdf. Accessed: July 2024.

¹⁵ CARB. 2022 State Strategy for the State Implementation Plan. September 22, 2022. Available at: https://ww2.arb.ca.gov/sites/default/files/2022-08/2022_State_SIP_Strategy.pdf. Accessed: July 2024.

¹⁶ San Joaquin Valley Air Pollution Control District. 2024 Plan for the 2012 Annual PM2.5 Standard Chapter 4 Attainment Strategy. June 20, 2024. Available at: <https://ww2.valleyair.org/media/10spfest/chapter-4.pdf>. Accessed: July 2024.

lowered the PM_{2.5} annual standard by 25%, from 12 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) to 9 $\mu\text{g}/\text{m}^3$, widening the attainment gap.

CARB is well aware that PM_{2.5} is a major pollution concern for environmental justice communities and has explained that “communities located near major roadways are also at increased risk of asthma attacks and other respiratory and cardiac effects; often, these communities are low-income communities and communities of color. Studies consistently show that mobile source pollution exposure near major roadways contributes to and exacerbates asthma, impairs lung function, and increases cardiovascular mortality.”¹⁷ The significance of PM_{2.5} to these public health concerns underscores the need for CARB to accurately assess and disclose how proposed rules impact the total PM_{2.5} from mobile sources, not just the exhaust emissions.

CEQA requires CARB to assess regulatory alternatives in light of their indirect and cumulative impacts (Cal. Code Regs., tit. 14, § 15130). One of CEQA’s primary concerns is with “human health and safety.” See *Cal. Building Indus. Ass’n v. Bay Area Air Quality Mgmt. Dist.*, 62 Cal. 4th 369, 386 (2015); Cal. Pub. Res. Code § 21083(b)(3). Particulate matter impacts from tire wear and road dust have the potential to be greater in electric vehicles compared to ICEVs. There is a high correlation between these emissions and vehicle weight, and ZEVs generally weigh more on average due to the inclusion of batteries. While CARB determined that *exhaust*-related PM emissions are likely to decrease under its proposed program updates, the State’s *total PM and PM_{2.5} inventories* may increase as heavier ZEVs are introduced to the fleet mix. As WSPA explained above, one of the explicit project objectives of the ACC II regulation is to achieve criteria air pollutant (CAP) reductions mandated under the Federal Clean Air Act (CAA). CARB’s proposal may conflict with this objective by increasing PM_{2.5} vehicle emissions. CARB cannot fulfill this objective without analyzing PM emissions more broadly, rather than focusing on exhaust emissions.

Several recent studies have illustrated the correlation between vehicle weight and tire wear and brake wear emissions. Orumiyeh and Zhu (2021) found that brake and tire wear emissions increased with vehicle mass, but magnitudes of the increase were sensitive to vehicle deceleration. Battery electric vehicles potentially generate higher brake and tire wear emissions than conventional vehicles due to their heavier weights.¹⁸

Within CARB’s own Triennial Strategic Research Plan for Fiscal Years 2021-2024,¹⁹ CARB recognizes that as tailpipe PM_{2.5} levels are decreasing, the relative proportion of particles from tire- and brake-wear is increasing. CARB estimated that “in the near future, it is estimated that the majority of PM_{2.5} and PM₁₀ mobile source emissions will be from non-exhaust sources such as tire and brake-wear.” The current emission inventory shows vehicle non-exhaust PM to be a substantially larger fraction of vehicle primary PM emissions than PM from exhaust, with brake-wear PM currently being the largest source of primary PM from on-road vehicles and being predicted to increase over time. Preliminary findings in an ongoing study conducted by Caltrans and CARB show that higher vehicle loading leads to higher emission factors. Similar to brake-wear, emissions from tire-wear are also predicted to change and are dependent on driving behavior, materials, and vehicle type.

¹⁷ CARB. 2020 Mobile Source Strategy. Page 26. October 28, 2021. Available at: https://ww2.arb.ca.gov/sites/default/files/2021-12/2020_Mobile_Source_Strategy.pdf. Accessed: July 2024.

¹⁸ Chen et. al. Contributions of non-tailpipe emissions to near-road PM_{2.5} and PM₁₀: A chemical mass balance study. October 15, 2023. Available at: <https://doi.org/10.1016/j.envpol.2023.122283>. Accessed: July 2024.

¹⁹ CARB. Triennial Strategic Research Plan for Fiscal Years 2021-2024. March 2021. Available at: https://ww2.arb.ca.gov/sites/default/files/2021-06/CARB_Triennial_Research_Plan_2021-2024_final.pdf. Accessed: July 2024.

Further, as shown in CARB's methodology for Entrained Road Travel and Paved Road Dust,²⁰ the AP-42 emission factor equation used to estimate paved road dust PM2.5 emissions per vehicle mile travelled is proportional to vehicle weight. The ZEV vehicles that would replace the existing ICEVs under the potential ACC II amendments are generally heavier and would cause greater tire wear and entrained road dust emissions.

CARB must quantitatively analyze total PM2.5 impacts, including brake wear, tire wear, and entrained road dust for the proposal and alternatives rather than focus solely on the exhaust PM2.5 emissions from vehicles.

4. CARB has failed to consider updated data related to market conditions that impact the feasibility of the ACC II program.

CARB is required to ensure that its GHG reduction measures are “technologically feasible and cost-effective.” See HSC § 38562. CEQA further requires CARB to support its rulemaking determinations with “substantial evidence.” (*Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 426. See also Pub. Res. Code § 21168.5). Rather than comply with these rulemaking requirements, CARB is instead “entirely fail[ing] to consider an important aspect of the problem” by limiting data to outdated materials that do not reflect current real-world changes. (See *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.* (1983), 463 U.S. 29, 43).

CARB's findings in support of the ACC II regulations rely on outdated and inaccurate automaker commitments and data and are not a reasonable basis for CARB's proposed program updates. The vehicle market is a fast-changing space, where even a few months may significantly alter market conditions. Rather than account for these changes, CARB is basing its program updates on materials submitted by CARB to the Office of Administrative Law on October 14, 2022, in support of the current ACC II regulations. However, this data includes projections that are now outdated and, more importantly, have since proven to be false in multiple material respects. These real-world changes have rendered the *existing* ACC II regulations infeasible – let alone the more stringent requirements proposed in these program updates.

CARB is proposing to increase program stringency for remaining ICEVs and hybrid vehicles and thereby increase reliance on reductions from ZEVs. However, these updates fail to account for key market realities that limit ZEV feasibility, including: (1) consumer demand for EVs is stalling and even slowing, rather than growing at the high adoption rates assumed by

²⁰ CARB. Miscellaneous Process Methodology 7.9: Entrained Road Travel, Paved Road Dust. 2021. Available here: https://ww3.arb.ca.gov/ei/areasrc/fullpdf/2021_paved_roads_7_9.pdf. Accessed: July 2024.

the existing ACC II regulations;^{21,22} (2) Ford,²³ GM,²⁴ Mercedes-Benz,²⁵ Volvo,²⁶ Renault,²⁷ Volkswagen,²⁸ Hyundai,²⁹ and other automakers are rolling back prior EV commitments and prioritizing ICEVs and hybrid vehicles; (3) EV-related costs to both automakers and

²¹ "EV Sales Slowing in 2023. Why Are More Americans Unlikely to Buy One?" USA Today, 08 May 2023,

<https://www.usatoday.com/story/money/personalfinance/2023/05/08/ev-sales-2023-slowng/70188358007/>.

²² "Falling EV Sales Raise Worries over California Climate Plan," Los Angeles Times, 15 Feb. 2024,

<https://www.latimes.com/environment/story/2024-02-15/falling-ev-sales-raise-worries-over-california-climate-plan>.

²³ "Ford's EV Losses Continue Piling up in Q3 Amid Pricing Pressure," Electrek, 26 Oct. 2023, <https://electrek.co/2023/10/26/fords-ev-losses-continue-piling-up-q3-pricing-pressure/>; "Ford Cuts EV Investment After Losing \$36,000 On Every EV Sold In Q3," Inside EVs, 27 Oct. 2023, <https://insideevs.com/news/693626/ford-cuts-ev-investment-after-losing-36000-usd-every-ev-sold-q3/>; "Ford Third Quarter 2023 Results," Ford, 26 Oct. 2023,

<https://media.ford.com/content/dam/fordmedia/North%20America/US/2023/10/26/Ford%20Again%20Attracts%20New%20Customers%20Drives%20Growth%20in%20Q3%20Company%20Changing%20How%20it%20Works%20to%20Improve%20Quality%20Costs.pdf>; "Ford Will Postpone about \$12 Billion in EV Investment," CNBC, 26 Oct. 2023,

<https://www.cnbc.com/2023/10/26/ford-will-postpone-about-12-billion-in-ev-investment.html>; "Ford's EV Division Remains a Loss-Making Business in 2023," Electrive, 07 Feb. 2024, <https://www.electrive.com/2024/02/07/fords-ev-division-remains-a-loss-making-business-in-2023/>; "Ford Motor Company (F) Q3 2023 Earnings Call Transcript," Nasdaq, 27 Oct. 2023,

<https://www.nasdaq.com/articles/ford-motor-company-f-q3-2023-earnings-call-transcript>; "Ford Motor Q4 2023 Earnings Call Transcript," MarketBeat, 06 Feb. 2024, <https://www.marketbeat.com/earnings/transcripts/100343/>; "Ford to Double F-150 Hybrid Pickup Production as EV Sales Growth Slows," CNBC, 13 Sept. 2023, <https://www.cnbc.com/2023/09/12/ford-to-double-f-150-hybrid-pickup-production-ev-sales-growth-slows.html>; "Ford Doubles Down on Hybrid Pickup Trucks," Reuters, 13 Sept. 2023,

<https://www.reuters.com/business/autos-transportation/ford-doubles-down-hybrid-pickup-trucks-2023-09-13/>; "Ford to Double Output of Hybrid F-150 Truck as EV Sales Slow," Bloomberg, 13 Sept. 2023, <https://www.bloomberg.com/news/articles/2023-09-13/ford-to-double-output-of-hybrid-f-150-truck-as-ev-sales-slow>.

²⁴ "GM, Honda Scrap Plans to Co-develop 'Affordable' Sub-\$30,000 EVs," CNBC, 25 Oct. 2023,

<https://www.cnbc.com/2023/10/25/gm-honda-scrap-plans-to-co-develop-affordable-sub-30000-evs.html>; "Honda CEO Says Halting Plans With GM to Develop Smaller EVs," Bloomberg, 25 Oct. 2023, <https://www.bloomberg.com/news/articles/2023-10-25/honda-ceo-says-scrapping-plans-with-gm-to-develop-smaller-evs/>; "Honda, GM Scrap \$5B Plan to Jointly Build Affordable EVs," Automotive Drive, 26 Oct. 2023, <https://www.automotive-drive.com/news/general-motors-honda-abandon-joint-electric-vehicle-plans/697885/>; "Honda, GM scrap \$5 bln plan to co-develop cheaper EVs," Reuters, 25 Oct. 2023,

<https://www.reuters.com/business/autos-transportation/honda-shelves-plan-co-develop-smaller-evs-with-gm-bloomberg-news-2023-10-25/>; "GM Abandons Goal of Building 400K EVs in North America by Mid-2024," GM Authority, 25 Oct. 2023, <https://gmauthority.com/blog/2023/10/gm-abandons-goal-of-building-400000-evs-in-north-america-by-mid-2024/>; "GM's 'All-In' Electric Future Now Includes Gasoline," EE News, 31 Jan. 2024, <https://www.eenews.net/articles/gms-all-in-electric-future-now-includes-gasoline/>; "GM Reverses All-In EV Strategy to Bring Back Plug-In Hybrids," The Drive, 31 Jan. 2024, <https://www.thedrive.com/news/gm-reverses-all-in-ev-strategy-to-bring-back-plug-in-hybrids>.

²⁵ "Mercedes-Benz Delays Electrification Goal, Beefs up Combustion Engine Line-up," Reuters, 22 Feb. 2024,

<https://www.reuters.com/business/autos-transportation/mercedes-benz-hits-cars-returns-forecast-inflation-supply-chain-costs-bite-2024-02-22/>.

²⁶ "Volvo Will Stop Funding Polestar EV Brand but Keep Collaborating," Car and Driver, 01 Feb. 2024,

<https://www.caranddriver.com/news/a46611722/volvo-polestar-stop-funding-news/>; "Volvo Cars to Stop Funding Polestar, May Hand Stake to Geely," Reuters, 01 Feb. 2024, <https://www.reuters.com/business/autos-transportation/automaker-volvo-cars-stop-funding-polestar-quarterly-earnings-above-estimates-2024-02-01/>; "Volvo Shares Jump 26% on Higher Sales, Plans to Stop Polestar Funding," CNBC, 01 Feb. 2024, <https://www.cnbc.com/2024/02/01/volvo-shares-jump-21percent-on-higher-sales-plans-to-stop-polestar-funding.html>.

²⁷ "Renault Cancels Planned IPO of EV Unit Ampere," Financial Times, 29 Jan. 2024, <https://www.ft.com/content/32fbb6e-bbee-4a6d-9704-a2b610e2cd44>; "France's Renault Scraps IPO of EV Business Ampere," Reuters, 29 Jan. 2024,

<https://www.reuters.com/business/autos-transportation/renault-group-cancels-ampere-ipo-confirms-ev-software-strategy-2024-01-29/>.

²⁸ "Volkswagen Plans Job Cuts, Further Launch Delays at Software Unit-Manager Magazin," Reuters, 27 Oct. 2023,

<https://www.reuters.com/business/autos-transportation/volkswagen-wants-cut-2000-jobs-cariad-unit-manager-magazin-2023-10-27/>; "Thousands to Lose Their Jobs as VW Slashes \$11 Billion in Costs," Electrek, 07 Dec. 2023, <https://electrek.co/2023/12/07/thousands-to-lose-their-jobs-as-vw-slashes-11-billion-in-costs/>.

²⁹ "Hyundai Scraps Ambitious Electric Targets for Its Genesis Brand," Electrive, 20 Feb. 2024,

<https://www.electrive.com/2024/02/20/hyundai-scraps-ambitious-electric-targets-for-its-genesis-brand/>; "Genesis Backtracking from All-EV Push in Favor of Hybrids: Report," The Drive, 19 Feb. 2024, <https://www.thedrive.com/news/genesis-backtracking-from-all-ev-push-in-favor-of-hybrids-report>.

consumers are not declining;³⁰ (4) EV technology continues to fail consumers;³¹ and (5) automakers have not demonstrated an ability to comply, *individually*, with ACC I—much less the more aggressive ACC II regulations.³² In short, CARB’s approach to forcing its desired “transition” to electrification is unreasonable and is not supported by substantial evidence. CARB must instead re-consider its proposal to reflect and account for current market conditions.

5. CARB should increase allowances and provide more flexibility for plug-in hybrid electric vehicles, which can achieve similar or lower emissions on a lifecycle basis and are better positioned to produce near-term GHG emission reductions given existing infrastructure challenges.

CARB’s proposed program updates would unreasonably disincentivize further investment in technologies such as PHEVs and would forego the emission benefits these vehicles would provide, especially as the state works to build out the infrastructure necessary to support a growing ZEV fleet. Increasing, rather than decreasing, allowances for PHEVs would be less burdensome and equally effective in achieving the desired GHG emission reductions, consistent with CARB’s rulemaking obligations under Government Code § 11346.2(b)(4)(A).

Under the previously adopted ACC II standards, CARB included a fleet utility factor (FUF) that would better account for real-world electric mileage utilization of PHEVs in compliance calculations. The FUF incentivized manufacturers to invest in PHEVs as a compliance mechanism for LEV emissions standards by ensuring that manufacturers received credit for actual utilization metrics. However, the proposed program updates would remove the FUF and adopt an ICEV-only fleet average standard for GHG emissions. While CARB is proposing to include hybridization as an available technology to reduce emissions from ICEVs, the definition would specifically *exclude* PHEVs. CARB has explained that it believes that real-world data implies the FUF is overestimating the emission benefits from PHEVs. However, even if this were accurate, the complete removal of PHEV consideration within these standards would unnecessarily hamper PHEV deployment within California and would forego important emissions benefits. Under this proposed program, manufacturers would have less reason to develop PHEV performance and range beyond the minimum ZEV performance standards and would instead invest in alternative technologies.

This approach would exacerbate existing restrictions on PHEVs. In its previously adopted ACC II language, CARB arbitrarily set a 20% cap on the number of PHEVs allowed to fulfill

³⁰ “New Report Unmasks True Costs of Electric Vehicle Mandates: ‘Remain More Expensive,’” MSN, 25 Oct. 2023, <https://www.msn.com/en-us/news/opinion/new-report-unmasks-true-costs-of-electric-vehicle-mandates-remain-more-expensive/ar-AA1i0Dfs>; “Overcharged’: Major Study Shows True Cost of Owning an EV, ‘Fueling’ Equal to \$17.33 per Gallon,” MSN, 28 Oct. 2023, <https://www.msn.com/en-us/news/technology/overcharged-major-study-shows-true-cost-of-owning-an-ev-fueling-equal-to-dollar1733-per-gallon/ar-AA1j0Uc6>; “Charging EVs Overnight Might Get a Lot More Expensive, Says Stanford Study,” CBT News, 26 Sept. 2022, <https://www.cbtnews.com/charging-evs-overnight-might-get-a-lot-more-expensive-says-stanford-study/>; “EVs Don’t Have a Demand Problem. They Have an Affordability Problem..” 31 Oct. 2023, <https://www.businessinsider.com/electrc-vehicle-demand-problem-affordability-expense-price-cost-2023-10>; “Why Servicing EVs Can Cost More Than Gas Cars, As Hertz Just Learned.” 11 Jan. 2024, <https://www.businessinsider.com/electric-car-service-maintenance-car-buyers-tips-dealers-cost-2023-2>.

³¹ “Tesla Disaster As Cars Won’t Charge in Freezing Cold,” Newsweek, 17 Jan. 2024, <https://www.newsweek.com/tesla-disaster-cars-not-charging-freezing-cold-chicago-1861396>; “Why EVs Don’t Go as Far in the Freezing Cold,” CNN Business, 16 Jan. 2024, <https://www.cnn.com/2024/01/16/business/why-evs-dont-go-as-far-in-the-freezing-cold/index.html>; “Tesla Vastly Overstates Its Vehicles’ Range, Report States,” Electrek, 27 Jul. 2023, <https://electrek.co/2023/07/27/tesla-vastly-overstates-its-vehicles-range-report-states/>; “Tesla Faces California Class Action on Its EV Range Claims,” Reuters, 03 Aug. 2023, <https://www.reuters.com/legal/tesla-faces-california-class-action-its-ev-range-claims-2023-08-03/>; “Californians Told Not to Charge Electric Cars Days After Gas Car Sales Ban,” Newsweek, 31 Aug. 2022, <https://www.newsweek.com/californians-told-not-charge-electric-cars-gas-car-sales-ban-1738398>; <https://www.reuters.com/legal/tesla-faces-california-class-action-its-ev-range-claims-2023-08-03/>.

³² Petition of FCA US LLC for Office of Administrative Law Determination of Underground Rulemaking by California’s Air Resources Board (Dec. 6, 2023).

manufacturers' annual obligations for ZEV sales. Under the proposed program update, CARB projects an even lower percentage of PHEVs in the fleet mix, consisting of less than 5% of new vehicle sales between 2026 and 2034 before slightly increasing to approximately 10% of new vehicle sales in 2035.³³

By imposing unnecessary limitations on PHEVs, CARB is foregoing the important emissions benefits provided by these vehicles. PHEVs will need to serve a vital role in reducing overall GHG emissions from the transportation sector. As discussed in previous comments, the development of a statewide charging infrastructure network is notoriously challenging. Original Equipment Manufacturers (OEMs), utilities, and fleet and vehicle owners have raised concerns that without significant development of infrastructure, deployment of ZEVs at the rate described in ACC II will be infeasible. The California Energy Commission's (CEC's) own modeling, which was included in the Draft Environmental Analysis for ACC II, highlights a lack of grid capacity across the State.³⁴ Expanding regional grid capacity can take upwards of 10 years, rendering the charging infrastructure necessary to support a ZEV/BEV fleet difficult to construct at an appreciable scale.³⁵

Removing the restrictions and penalties on PHEVs, particularly over the next decade, is crucial to achieving the projected GHG reductions from ACC II, particularly for 1) special use and heavier vehicles such as pick-up trucks and large sport utility vehicles (SUVs), commercial services in rural areas, long-haul services, and small-scale towing applications, and 2) communities with multi-family units with minimal or limited access to EV charging stations that cannot feasibly or economically transition to full BEV and rural/remote areas within non-exempt counties with minimal public charging stations. PHEVs also provide significant additional functionality and flexibility for consumers by assuaging concerns regarding the reliability, range, and functionality of BEVs. By proposing exclusion of PHEV electric operation from compliance calculations, CARB would disadvantage PHEVs in the market and potentially shift market focus to HEVs, which are not as efficient.

Given the known lag in charging stations and related electrification transmission and distribution infrastructure (particularly in low-income and environmental justice communities), it is imperative that CARB take a bottom-up approach when projecting fleet makeup to ensure that the daily transportation needs of the State's populace are met as CARB aims to decarbonize the transportation sector. Allowing the use of PHEVs and lower-CI fuel can ease the impacts from these efforts while still achieving near-term CAP reductions and contributing towards state GHG goals in a cost-effective manner.

Under Government Code § 11346.2(b)(4)(A), CARB must evaluate "alternatives that are proposed as less burdensome and equally effective in achieving the purposes of the regulation in a manner that ensures full compliance with the authorizing statute or other law being implemented or made specific by the proposed regulation." *Id.* The explicit purpose of the ACC II regulation is to achieve CAP reductions mandated under the Federal CAA and GHG emission reductions to meet statewide GHG targets. Expanding allowances and flexibilities for PHEVs would increase near-term emissions benefits and is essential for meeting statewide reduction targets.

³³ CARB. Public Workshop on ACC II Amendments. June 26, 2024. Available at: https://ww2.arb.ca.gov/sites/default/files/2024-06/2024_06_26_ACC%20II%20Amendments%20Workshop%20Presentation_ADA.pdf. Accessed: July 2024.

³⁴ Draft Environmental Analysis (EA) for the Proposed ACC II Program. Available at: <https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2022/accii/appe1.pdf>. Accessed: July 2024.

³⁵ CARB Workshop Recording of ACF Virtual Medium and Heavy-Duty Infrastructure Workgroup Meetings - Electricity and the Grid (Part 2). March 2022. CARB Workshop web page (<https://ww2.arb.ca.gov/our-work/programs/advanced-clean-fleets/advanced-clean-fleets-meetings-events>) includes link to recording at: <https://youtu.be/uLYrDh-pKQI>. Accessed: July 2024.

6. CARB must evaluate a broader range of regulatory alternatives in order to comply with its rulemaking obligations.

Consistent with its rulemaking obligations, CARB must consider regulatory alternatives that increase allowances of PHEVs in the fleet purchase mix or allow for the use of alternative fuels in ICEVs.

Pursuant to Government Code § 11346.2(b)(4)(A), CARB is required to analyze “alternatives that are proposed as less burdensome and equally effective in achieving the purposes of the regulation in a manner that ensures full compliance with the authorizing statute or other law being implemented or made specific by the proposed regulation.” Similarly, CEQA requires CARB to assess “a reasonable range of alternatives to the proposed project, which could feasibly attain most of the project objectives but could avoid or substantially lessen any of the identified significant impacts.” (Cal. Code Regs., tit. 17, § 60004.2). CEQA Guidelines further specify that, in developing regulatory alternatives, agencies must consider alternatives “which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives.” (Cal. Code Regs., tit. 14, § 15126.6(b)). CARB has failed to adequately do so in prior iterations of ACC II, but must do so in considering any program revisions.

WSPA recommends that CARB evaluate, at minimum, two additional regulatory alternatives:

- (3) An alternative with no further PHEV or ICEV-related restrictions and an increase of allowed PHEVs (consistent with the same or greater lifecycle GHG reductions) within the final fleet purchase mix; and
- (4) An alternative that would allow ICEVs using alternative fuels such as higher ethanol blends and hydrogen.

These technology options are more cost-effective and achieve the same or greater emission reductions than the proposed regulation when lifecycle fueling emissions, vehicle manufacturing emissions (including batteries), total PM emissions (brake/tire wear, entrained road dust and tailpipe), and other key issues, such as critical mineral sourcing impacts, are considered. These technologies would further CARB’s objectives while achieving near-term emission reductions that would otherwise be infeasible, given existing infrastructure challenges. Without significant development of infrastructure, deployment of ZEVs at the rate described in ACC II will be infeasible. As WSPA has previously noted, the CEC’s own modeling shows that charging infrastructure necessary to support a ZEV/BEV fleet may not be widely available for at least 10 years due to a lack of grid capacity across the State.^{36,37}

Allowing the use of alternative fuels such as higher ethanol blends and hydrogen in ICEVs would help to achieve the same or greater emissions reductions than the proposed regulation. As highlighted in a letter submitted to CARB by the Renewable Fuels Association, the use of lower-carbon intensity gasoline blends containing 15% ethanol (E15) would result in significant air quality benefits as well as the aforementioned GHG emission reductions.³⁸ The Center for Environmental Research and Technology at the University of

³⁶ Draft Environmental Analysis (EA) for the Proposed ACC II Program. Available at: <https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2022/accii/appe1.pdf>. Accessed: May 2022.

³⁷ CARB Workshop Recording of ACF Virtual Medium and Heavy-Duty Infrastructure Workgroup Meetings - Electricity and the Grid (Part 2). March 2022. CARB Workshop web page (<https://ww2.arb.ca.gov/our-work/programs/advanced-clean-fleets/advanced-clean-fleets-meetings-events>) includes link to recording at: <https://youtu.be/uLYrDh-pKQI>. Accessed: December 2023.

³⁸ Renewable Fuels Association. RFA Letter to CARB re E15. October 3, 2023. Available here: <https://d35t1syewk4d42.cloudfront.net/file/2606/RFA%20Letter%20to%20CARB%20re%20E15%2010-3-23.pdf>. Accessed: January 2024.

California at Riverside conducted a comparison between E10 CaRFG and E15 and found statistically significant reductions in the tailpipe emissions of PM, carbon monoxide (CO), total hydrocarbons (THC), non-methane hydrocarbon gases (NMHC), and other pollutants that lead to smog and air quality problems.³⁹ The research also found non-statistically significant reductions in nitrogen oxide (NOx) tailpipe emissions⁴⁰. Drop-in lower-CI fuels achieve GHG emission reductions without forcing consumers to face the high up-front cost to replace their current vehicles or the costs associated with locating and installing electric vehicle charging infrastructure and without compromising the State's ability to meet federal ozone standards. Therefore, CARB should allow the use of ethanol and the blend of other lower-carbon intensity fuels for ICEVs as a performance-based GHG and criteria pollutant emissions reduction mechanism in the potential ACC II amendments, in recognition that many areas, particularly rural, remote, and disadvantaged areas do not (and will not for many years) have the public charging infrastructure needed to achieve reductions through the use of BEVs.

Thank you for considering our comments. We would welcome the opportunity to discuss these concerns in more detail. If you have any immediate questions, please feel free to contact me at sellinghouse@wspa.org. We look forward to working with you on these important issues.

Sincerely,



Sophie Ellinghouse
Vice President, General Counsel & Corporate Secretary

³⁹ Karavalakis, Georgios, et al. Comparison of Exhaust Emissions Between E10 CaRFG and Splash Blended E15. Available here: https://ww2.arb.ca.gov/sites/default/files/2022-07/E15_Final_Report_7-14-22_0.pdf. Accessed: January 2024.

⁴⁰ Ibid.