WSPA

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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: Advanced Clean Cars II (ACC II) Amendments Kick-Off Workshop

The Western States Petroleum Association (WSPA) appreciates the opportunity to comment on the November 15, 2023, 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 can be found in the docket and are all incorporated by reference herein.[1] WSPA offers the following additional comments on CARB's potential ACC II amendments.

1. ACC II and all its amendments are *ultra vires*.

As we explained in previous comment letters, ACC II is contrary to law because it is preempted by (at least) two different federal laws.

First, ACC II is preempted by the Clean Air Act (CAA). Section 209(a) of the CAA provides that "No State or any political subdivision thereof shall adopt or attempt to enforce any standard relating to the control of emissions from new motor vehicles or new motor vehicle engines subject to this part." 42 U.S.C. § 7543(a). The current ACC II Regulation bans new internal combustion engines by model year 2035, which constitutes a "standard relating to the control of emissions from new motor." The only exception to this broad prohibition is CAA Section 209(b), which permits EPA to "waive application of" the preemption provision if certain conditions are met. 42 U.S.C. § 7543(b). However, the United States Environmental Protection Agency (USEPA) has not granted such a waiver for the ACC II program, nor would it be proper to grant such a waiver because ACC II does not meet the waiver requirements of Section 209(b). Therefore, the program is preempted. Any amendments "relating to the control of emissions from new motor vehicles or new motor vehicle engines" – including any separate greenhouse gas (GHG) emissions standards – would likewise be preempted.

However, even with a waiver, the CAA preempts ACC II and any subsequent amendments because CARB is required to obtain a waiver *before* adopting an otherwise preempted regulation. Section 209 states that California may not "adopt" a standard without obtaining a waiver from USEPA. Because the effective date of ACC II was November 30, 2022, these rules

[1] CARB. Board Meeting Comments Log. Available at: https://www.arb.ca.gov/lispub/comm/iframe_bccommlog.php?listname=accii2022&_ga=2.175804576.369179905.1702055938-1594255530.1691639637. Accessed: January 2024.

were "adopt[ed]" without a waiver and are thus void *ab initio*. CARB cannot regulate first and ask permission later.

Second, ACC II is preempted by the federal Energy Policy and Conservation Act (EPCA). EPCA includes an express preemption provision forbidding any "State or a political subdivision of a State" to "adopt or enforce a law or regulation related to fuel economy standards or average fuel economy standards." 49 U.S.C. § 32919(a). ACC II is "related to" fuel economy because, as the D.C. Circuit has explained, "any rule that limits tailpipe CO_2 emissions is effectively identical to a rule that limits fuel consumption." *Delta Const. Co. v. EPA*., 783 F.3d 1291, 1294 (D.C. Cir. 2015) (per curiam) (quoting 76 Fed. Reg. 57,106, 57,124–25 (Sept. 15, 2011)) (cleaned up). Any doubt on this score is resolved by a recent Ninth Circuit decision discussing a provision in a different section of EPCA, where the court held that courts must look at preemption provisions with a purely "textual analysis 'without any presumptive thumb on the scale' for or against preemption." *California Rest. Ass'n v. City of Berkeley*, No. 21-16278, 2024 WL 23986, at *4 (9th Cir. Jan. 2, 2024) (quoting *R.J. Reynolds Tobacco Co. v. Cnty. of Los Angeles*, 29 F.4th 542, 552 (9th Cir. 2022)). By completely prohibiting the installation of natural gas piping within newly constructed buildings, the City of Berkeley ran afoul of EPCA's preemption of any regulation "concerning … the energy use" and explained that "'concerning' means 'relating to'" and has a "'broadening effect, ensuring that the scope of a provision covers not only its subject but also matters relating to that subject.'" *Id.* at *6 (quoting *Lamar, Archer & Cofrin, LLP v. Appling*, 138 S. Ct. 1752, 1759 (2018)) (cleaned up). The Ninth Circuit declined to take the case *en banc*.

2. CARB must perform a comprehensive lifecycle GHG emissions analysis for the vehicle/fuel system in order to capture the full GHG emission impacts of the increased zero emission vehicles (ZEVs) under the ACC II Regulation.

In considering revisions to the ACC II Regulation, CARB must consider the lifecycle emissions for "zero emission" vehicles, assess GHG emissions outside of the State of California that would be caused by the revised ACC II program, and include a technology-neutral analysis of alternatives that could meet the GHG reduction goals.

The California Environmental Quality Act (CEQA) requires CARB to assess regulatory alternatives in light of their cumulative impacts (Cal. Code Regs., tit. 14, § 15130). To comply with this requirement, CARB must conduct a lifecycle emissions analysis of ZEVs in order to understand and evaluate significant impacts. This analysis must evaluate impacts associated with battery production, transport, and disposal or recycling, which present significant emissions and waste impacts. This analysis 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 natural gas units to make up for the intermittency of renewable resources, such as wind and solar.

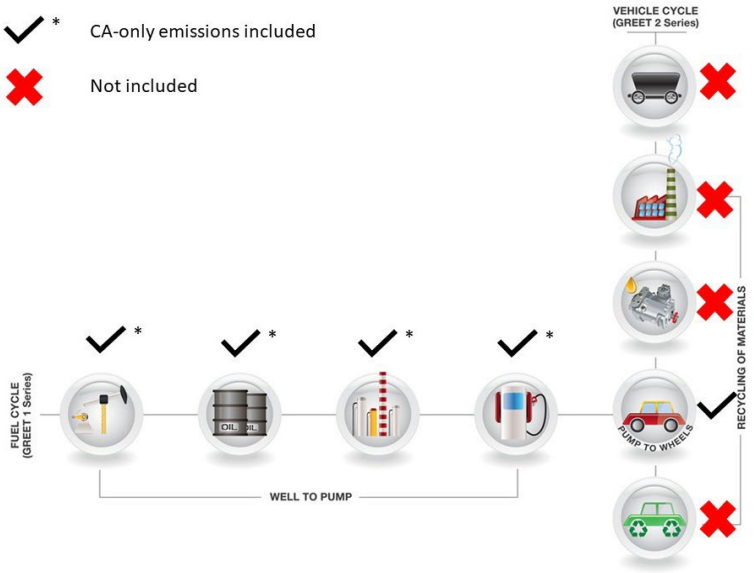
A lifecycle assessment is also critical to meeting other statutory requirements. California Health and Safety Code (HSC) § 57005 requires CARB to consider any less costly but equally effective alternatives. CARB cannot perform this analysis without a lifecycle emissions analysis of both ZEVs and highly efficient low emission vehicles, which impose significantly fewer infrastructure

expenses while achieving substantial GHG emissions reductions on a faster timeline. CARB also has a responsibility to minimize the "leakage" potential of any regulatory activities, pursuant to HSC § 38562(b)(8). CARB must estimate emissions impacts outside the State from a lifecycle perspective, which CARB has failed to do.

As noted in WSPA's letter submitted on May 31, 2022,[2] CARB has previously excluded the following pieces of lifecycle GHG emissions from its evaluation of ACC II:

- Upstream fuel cycle GHG emissions from out-of-State fuel production and transportation activities for California reformulated gasoline (CaRFG) and hydrogen (H2)
- GHG emissions associated with vehicle production changes required by the proposed regulation. This could be significant particularly for minerals extraction and processing and battery production, transportation, as well as downstream effects like disposal and replacement impacts for battery electric vehicles (BEVs) that are not part of the baseline for internal combustion engine vehicles (ICEVs). The aspects of the emissions inventory missing from the analysis are highlighted in Figure 1 below.

Figure 1: CARB ACC II Emissions Assessment Scope[3]

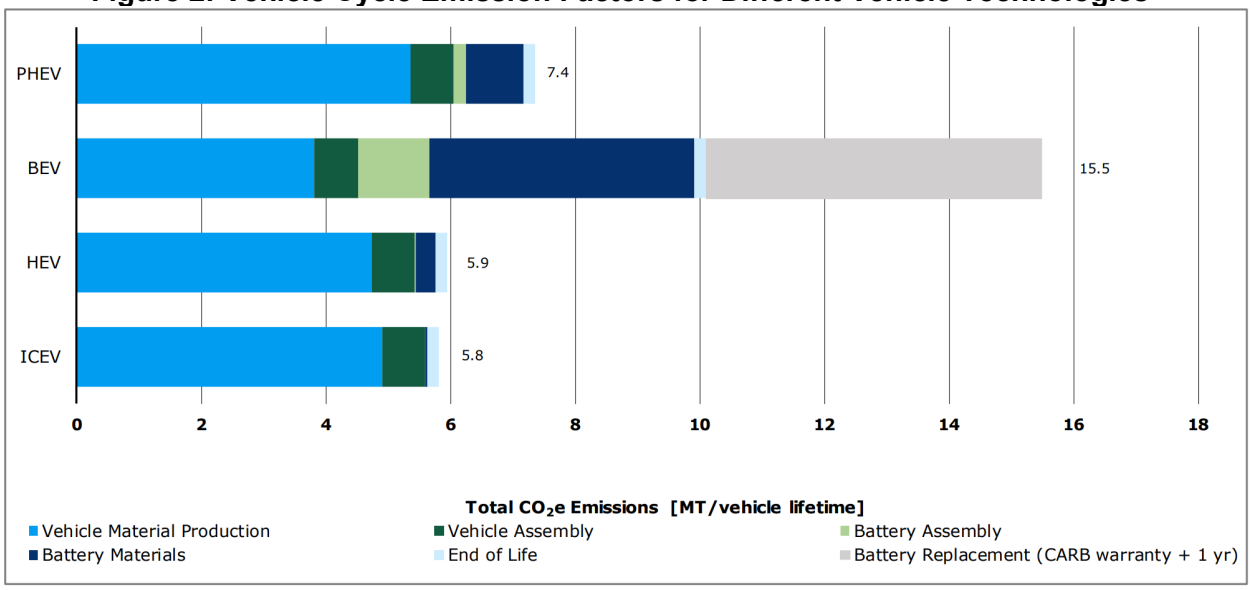


WSPA contracted with Ramboll to conduct a technology-neutral study of light duty vehicles (LDVs) that analyzes the full lifecycle GHG emissions of each technology/fuel ("Ramboll LDA Study") for the statewide light duty automobile fleet. This study was provided to CARB in Attachment D of WSPA's May 2022 comment letter. The Ramboll LDA Study found that the vehicle cycle emissions for a model year (MY) 2026 BEVs (10.1 metric tons (MT) CO2e per vehicle) was about 74% higher than those for a MY 2026 ICEV (5.8 MT CO2e per vehicle) (see

[2] WSPA. Comments on ACC II Regulation Initial Statement of Reasons Documents ("Ramboll LCA Study"). May 31, 2022. Available at: https://www.arb.ca.gov/lists/com-attach/477-accii2022-AHcAdQBxBDZSeVc2.pdf. Accessed: January 2024.
[3] GREET Model Home Page. Available at: https://greet.es.anl.gov/. Accessed: January 2024. Checkmark and X annotations by Ramboll on behalf of the Associations.

Figure 1). If the BEV undergoes a battery replacement during its lifetime, its vehicle cycle emissions increase to 15.5 MT CO2e per vehicle, which is ~167% higher than those of an ICEV. 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 in prior iterations of the ACC II program to fully understand its impacts. In considering updates to this program, CARB must account for these lifecycle emissions impacts.

Figure 2: Vehicle Cycle Emission Factors for Different Vehicle Technologies[4]



3. CARB should increase allowances for plug-in hybrid electric vehicles in its ACC II program update, which can achieve similar or lower emissions on a lifecycle basis and are better positioned to produce near-term GHG emission reductions and meet implementation challenges.

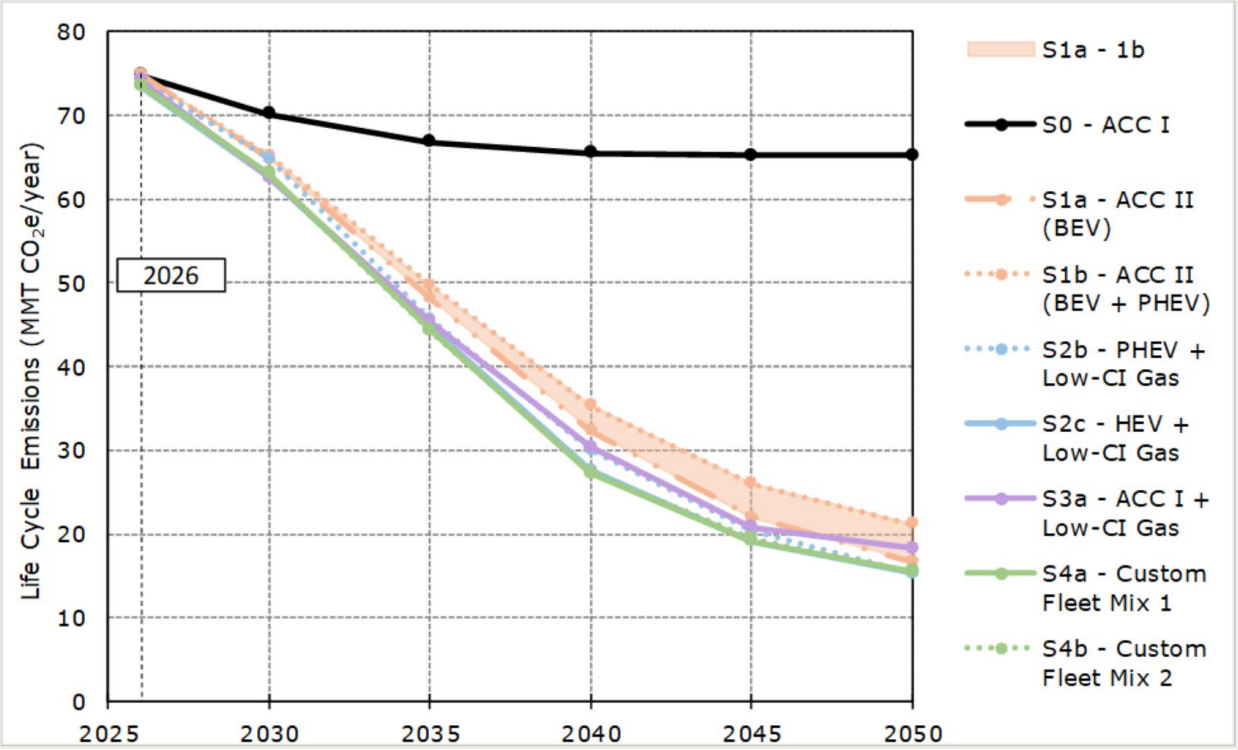
CARB has not centered emission reduction goals in the ACC II rulemaking; instead CARB has produced a technology-forcing standard that mandates large-scale LDVs and medium-duty vehicle (MDV) turnover to electric vehicles (largely BEVs and fuel cell electric vehicles (FCEVs), with a limited allowance for plug-in electric hybrid electric vehicles (PHEV)), despite evidence that similar or greater lifecycle emission reductions could be achieved through more technologically feasible pathways. Any updates to ACC II should include a broader range of technologies and should, at minimum, increase allowances for PHEVs, which are crucial for achieving GHG emission reductions in the early years of ACC II due to multiple implementation challenges, including but not limited to, insufficient charging and/or supporting electrical transmission/distribution infrastructure.

The Ramboll LCA Study shows that a gradual transition to lower-Carbon Intensity (CI) gasoline (represented by the purple line in Figure 2) with current vehicle technologies could achieve similar lifecycle GHG emissions as the current ACC II Regulation (represented by the pink

[4] Figure 3-5 of Ramboll LCA Study.

shaded region in Figure 2). Meeting the ACC II sales target with PHEVs (represented by the blue dotted line in Figure 2), rather than the current Regulation, in combination with this fuels transition, would result in a net reduction of 4 to 6 MMTCO2e per year from 2035 to 2050.

Figure 2: Lifecycle Emissions for Key Scenarios[5]



CARB's current ACC II Regulation arbitrarily adopted a 20% cap on the number of PHEVs allowed to fulfill original equipment manufacturers' (OEM) annual obligations for ZEV sales without recognition for expanded emission benefits and the obstacles that threaten BEV deployment. As discussed in previous comments submitted for ACC II and the Advanced Clean Fleets Regulation (ACF), the development of a State-wide charging infrastructure network is notoriously challenging. Public discussion with OEMs, utilities, and fleet and vehicle owners have repeatedly 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 own modeling, which was included in the Draft Environmental Analysis for ACC II, highlights a lack of grid capacity across the State.[6] Expanding regional grid capacity can take upwards of 10 years, rendering the charging infrastructure necessary to support a ZEV/BEV fleet difficult to constructed at an appreciable scale.[7]

[5] Ramboll LCA Study.
[6] 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.
[7] 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.

Removing the restriction 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 sports 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 electric vehicle charging stations that cannot feasibly or economically transition to full BEVs, and rural/remote areas within non-exempt counties with minimal public charging stations.

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 the fleet makeup to ensure that the daily transportation needs of the State's populace are met throughout this transition. Allowing the use of PHEVs and lower-CI fuel can ease this transition in a cost-effective manner.

4. CARB's ACC II program update should evaluate and include a broader range of technologies, including lower-carbon intensity fuels used in ICEVs, such as ethanol blends, that can achieve GHG reductions consistent with CARB's goals.

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. In considering program revisions, CARB must therefore evaluate performance standards that would permit a broader range of technologies, including lower-CI fuels. This evaluation must include "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.*

CARB must also evaluate a broader range of technologies in order to comply with CEQA. 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 the ACC II Regulation and must do so in considering any program revisions. PHEVs and other technologies would avoid significant adverse impacts while furthering CARB's project objectives.

Further, CARB cannot choose project objectives so narrow "as to preclude any alternative other than the Project." *We Advocate Through Env't Rev. v. Cnty. of Siskiyou*, 78 Cal. App. 5th 683, 692 (2022). CARB's reliance on BEV deployment and ZEVs more generally improperly restricts the scope of the project and precludes any meaningful analysis of alternative technologies.

These comments reflecting CARB's obligations under the California Administrative Procedure Act (Gov. Code § 11346.2) and CEQA also apply to Section 2, regarding CARB's omission of a comprehensive lifecycle analysis, and Section 3, addressing ACCII's PHEV allowance. CARB proposed the use of ethanol as a transportation fuel as a potential amendment to the GHG program within ACC II at the workshop held on November 15, 2023.[8] As previously discussed, Ramboll's analysis shows that similar, if not greater, lifecycle emission reductions would be achieved through a gradual transition to lower-CI gasoline (30% usage by 2035 and 100% by 2050, up from 1% usage in 2026) coupled with either current vehicle technologies or PHEVs when compared to the draft ACC II scenario (Figure 1).[9]

To estimate a carbon intensity for the lower-CI gasoline, Ramboll reviewed currently available and documented carbon intensities for lower-CI renewable gasoline drop-in fuels, which include USEPA lifecycle GHG results,[10] Low Carbon Fuel Standards (LCFS) fuel pathways,[11] Argonne National Laboratory state-of-technology research,[12] CARB-driven research,[13] and a research paper published by the University of Chicago.[14] These fuels ranged in upstream carbon intensity from -29.0 grams of carbon dioxide equivalent per megajoule (gCO2e/MJ) to 37.1 gCO2e/MJ with an average of 19.0 gCO2e/MJ, compared to the 29.1 gCO2e/MJ upstream carbon intensity of existing E10 gasoline.[15,16] Further information on this methodology can be found within the Ramboll LCA Study.

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.[17] The Center for Environmental Research and Technology at the University of California at Riverside (UCR) conducted a comparison between E10 CaRFG and E15 and found statistically significant reductions in the tailpipe emissions of particulate matter (PM), carbon monoxide (CO), total hydrocarbons (THC), non-methane hydrocarbon gases (NMHC), and other pollutants that lead to smog and air quality problems.[18] The research also found non-statistically significant reductions in nitrogen oxide (NOx) tailpipe emissions.[19]

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[8] CARB. ACC II Amendments Kick-Off Workshop. Available at: https://ww2.arb.ca.gov/sites/default/files/2023-12/2023_11_15%20ACC%20II%20Amends%20Workshop%20slides_ADAv2.pdf. Accessed December 2023.
[9] Ramboll LCA Study.
[10] EPA. 2016. Lifecycle Greenhouse Gas Results. Available here: https://www.epa.gov/fuels-registration-reporting-and-compliance-help/lifecycle-greenhouse-gas-results. Accessed: January 2024.
[11] CARB. 2022. LCFS Current Pathways. Available here: https://ww2.arb.ca.gov/sites/default/files/classic/fuels/lcfs/fuelpathways/currentpathways_all.xlsx. Accessed: January 2024.
[12] Argonne National Laboratory. 2021. Supply chain sustainability analysis of renewable hydrocarbon fuels- update of the 2020 state-of-technology cases. Available here: https://greet.es.anl.gov/publication-2020_update_renewable_hc_fuel. Accessed: January 2024.
[13] CARB. 2016. Biofuels Supply Module. Available here: https://www.arb.ca.gov/cc/scopingplan/meetings/090716/bfsmv83b.zip. Accessed: January 2024.
[14] University of Chicago. 2021. Life Cycle Analysis of Electrofuels: Fischer–Tropsch Fuel Production from Hydrogen and Corn Ethanol Byproduct CO2. Available here: https://pubs.acs.org/doi/10.1021/acs.est.0c05893. Accessed: January 2024.
[15] Ibid.
[16] CA-GREET3.0 Model. Available here: https://www.arb.ca.gov/fuels/lcfs/ca-greet/ca-greet30-corrected.xlsm?_ga=2.255823756.582239942.1645477627-990540269.1603987774. Accessed: January 2024. Available under the tab 'Petroleum' under 'Energy % Ethanol in CaRFG'.
[17] 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.
[18] 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.
[19] Ibid.

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.

5. CARB has stated that it believes that real-world data implies that the Fleet Utility Factor (FUF) is overestimating the emission benefits from PHEVs and is urging USEPA to propose a more conservative version of the FUF curve to account for the overestimation and to increase stringency. WPSA encourages CARB to take a broader look at the information that USEPA used in its proposal and the related information from national stakeholders before taking such a position.

Given that the PHEV market is still relatively new, CARB must further investigate real-world electric mileage utilization before coming to a position on FUF development and usage. Other stakeholders, such as Toyota, have pointed out concerns with the methodology employed by USEPA that resulted in the FUF curve being lowered.[20] These concerns include:

- Studies used to support the changes were not relevant to the United States and were not representative of PHEV charging behaviors within the United States.
- Exclusion of relevant peer-reviewed publications, including papers by Toyota and the University of California at Davis that support the existing FUFs.[21,22]
- Errors within the two datasets used to depict real-world PHEV operation in the United States that included data input errors for fueling units of measure, exclusion of "outlier" miles per gallon data points reflective of majority electric driving behaviors, and non-mandatory yet costly reporting requirements that result in a non-representative sample of PHEV operating behaviors.

WSPA is concerned that by adopting or supporting the lowering of the FUF based on non-representative data, CARB will be unnecessarily hampering PHEV deployment within California, both to the detriment of consumers and to the State's ability to meet its GHG reduction goals.

6. WSPA supports CARB's proposal to update the consumer protection measures for consumer-facing ZEV labels.

Manufacturers of ICEVs are required to disclose key metrics including the fuel economy (e.g., miles per gallon) for city and highway driving, and the annual expected fuel cost on the window

[20] Toyota Motor North America, Inc. Multi-Pollutant Emissions Standards for Model Years 2027 and Later Light-Duty and Medium-Duty Vehicles. Available at: https://www.regulations.gov/comment/EPA-HQ-OAR-2022-0829-0620. Accessed: January 2024.
[21] Hamza, K., Laberteaux, K. and Chu, K.C. "On inferred real-world fuel consumption of past decade plug-in hybrid electric vehicles in the US," Environ. Res. Lett. 17 (2022) 104053.
[22] Raghavan, S. and Tal, G. "Plug-in hybrid electric vehicle observed utility factor: why the observed electrification performance differ from expectations." Int. J. Sustain. Transp. (2020) 16: 105-136.

sticker and the manufacturer- or dealer-supplied pamphlets. This information enables consumers to understand the expected performance of the vehicle and more effectively comparison shop. During November's ACC II working group meeting, CARB proposed including a requirement for ZEVs to include similar sticker information. The sticker for ZEVs should include parameters such as the battery life, battery degradation, and other information required by ACC II.

WSPA supports CARB's proposal to require ZEV manufacturers to provide consumers accurate and transparent information to facilitate more informed purchasing decisions. CARB's proposed supplementary labeling requirements for ZEVs are particularly important, as current USEPA labels for electric vehicles are inaccurate and can significantly overstate the real-world electric vehicle fuel economy and range consumers are likely to achieve.[23] The inaccuracy is particularly egregious for estimates of electric vehicle range, where the real-world values can be 26% or more lower, on average, than the USEPA label value for some large electric vehicle manufacturers.[24]

CARB should require that the sticker for ZEVs include city and highway fuel economy and range estimates that better reflect real-world performance. This includes accounting for manufacturer charging recommendations (which often advise that a battery not be charged above 80% of its maximum capacity or discharged below 30% of its maximum capacity[25]) and using more realistic driving scenarios (with greater weighting of highway driving) when estimating range.

Expected battery performance over time is also critically important to consumers, many of whom will own and operate their vehicle for up to a decade. ACC II currently requires that ZEVs, hybrid-electric vehicles, and PHEVs include a label on the battery that provides information about the battery system, including the battery chemistry, the minimum voltage of the battery pack, the rated capacity of the unit, and a digital identifier. This label is located on the battery within the car, however, and does not easily aid consumers in comparing ZEV options when shopping.

WSPA supports an amendment requiring that the CARB ZEV window stickers include additional information related to battery performance, including expected battery life, battery degradation, battery efficiency, charging time, and the impact of temperature, speed, and towing on fuel economy and range.

Finally, CARB's current window sticker for ZEVs displays only the global warming score and the smog score the for the ZEV.[26] To provide the most accurate information to consumers, the global warming and smog scores for ZEVs should be adjusted to reflect the full lifecycle emissions of ZEVs, as described above.

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[23] Gregory Pannone & Dave VanderWerp, *Comparison of On-Road Highway Fuel Economy and All-Electric Range to Label Values: Are the Current Label Procedures Appropriate for Battery Electric Vehicles?*, SAE Technical Paper 2023-04-11, at 3–4-. ("Car and Driver Study").

[24] Car and Driver Study, at 4.

[25] *See, e.g.,* https://www.tesla.com/ownersmanual/modely/en_us/GUID-BEE08D47-0CE0-4BDD-83F2-9854FB3D578F.html; https://www.midtronics.com/blog/is-it-bad-to-charge-an-electric-vehicle-to-100.

[26] CARB. ACCII Amendments Kick-Off Workshop. November 15, 2023. Available at: https://ww2.arb.ca.gov/sites/default/files/2023-12/2023_11_15%20ACC%20II%20Amends%20Workshop%20slides_ADAv2.pdf. Accessed: January 2024.

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