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October 24, 2022

(Submitted via the Draft 2022 Climate Change Scoping Plan and by email to Rajinder.Sahota@arb.ca.gov.)

Ms. Rajinder Sahota
California Air Resources Board
1001 I Street,
Sacramento, CA 95814

Re: Comments on the Recirculated Draft Environmental Analysis for the Draft 2022 Scoping Plan Update

Dear Ms. Sahota:

The Western States Petroleum Association (WSPA) appreciates the opportunity to present these comments on the Recirculated Draft Environmental Analysis (EA)¹ for the Draft 2022 Scoping Plan released by the California Air Resources Board (CARB) on September 9, 2022. WSPA is a non-profit trade association that represents companies that explore for, produce, refine, transport and market petroleum, petroleum products, natural gas, and other energy supplies in California and four other western states. It has been an active participant in air quality planning issues for over 30 years.

Our members form the backbone of California's economy, providing jobs, fueling air, road, and marine transport, and supplying necessary energy to the manufacturing and agriculture sectors. Our industry generates more than \$152 billion in total economic output and makes significant fiscal contributions to California's state and local governments, including more than \$21 billion in state and local tax revenues, \$11 billion in sales taxes, \$7 billion in property taxes, and \$1 billion in income taxes.

While the economic impact numbers are compelling, our industry's greatest asset and contribution to the state's economy are the more than 366,000 hard-working women and men with careers providing affordable, reliable energy in California. We produce 42 million gallons of gasoline and 10 million gallons a day of diesel to support the State's 35 million registered vehicles. All of these contributions to the State occur while our members continue to lower the carbon intensity (CI) of their fuels consistent with the low carbon fuel standard (LCFS) program and spur investment in emission reduction technologies and renewable fuels.

¹ 2022 Scoping Plan Draft EA. Available at: <https://ww2.arb.ca.gov/resources/documents/2022-scoping-plan-documents>. Accessed: September 2022

Our comments on the Recirculated Draft Environmental Analysis to the Scoping Plan are provided below:

1. WSPA agrees with CARB that Carbon Dioxide Removal (CDR) and Carbon Capture and Sequestration (CCS) are necessary elements of the Draft 2022 Scoping Plan Update and is pleased to see quantitative goals for these technologies in the Recirculated Draft EA. CARB and its sister agencies must still address implementation obstacles.

WSPA strongly supports the use of CDR and CCS to achieve the State's climate goals. Implementation of CDR/CCS at scale will be pivotal to the overall success of the Scoping Plan to achieve carbon neutrality by 2045. WSPA also strongly agrees with CARB that significant effort needs to be undertaken within the State to streamline and speed up permitting for CCS and other low-carbon technology options.

Part of this implementation will require the installation of pipelines to convey carbon dioxide (CO₂) from sources to geologic sequestration locations. Fortunately, this is not new nor unproven technology, as CO₂ has been safely transported by pipelines in the United States since the 1970s.² Today, in the United States, there are over 5,300 miles of CO₂ pipelines.³ In California, while there are currently no CO₂ pipelines, there are over 5,600 miles of hazardous liquid pipelines⁴ that safely convey millions of gallons of materials daily. Indeed, over 70% of finished liquid fuels in the United States are shipped safely by pipeline. In California, this is accomplished under the oversight of the Office of State Fire Marshall (OSFM).

WSPA members are capable and ready to undertake the task to establish the infrastructure for CDR/CCS in California and acknowledge the intent of Senate Bill (SB) 905 to promote these critical technologies for decarbonization in California. However, we are concerned that the updated regulatory regime under SB 905 inadvertently created a number of areas of confusion and potential delays. Areas of concern that will need to be addressed include:

- We encourage CARB and its sister agencies to continue to establish and clarify roles and responsibilities to accelerate development of CDR/CCS in California. Per our reading, SB 905 assigns broad CDR/CCS oversight responsibilities to CARB, with important specific responsibilities (land issues and CO₂ pipeline safety) assigned to the California Natural Resources Agency. We presume that CO₂ pipeline responsibility will be assigned to OSFM which currently has liquid pipeline responsibility and certification

² "A Review of the CO₂ Pipeline Infrastructure in the U.S.", U.S. Department of Energy National Energy Technology Laboratory, Available at: https://www.energy.gov/sites/prod/files/2015/04/f22/QR%20Analysis%20-%20A%20Review%20of%20the%20CO2%20Pipeline%20Infrastructure%20in%20the%20U.S_0.pdf. Accessed October, 2022.

³ Annual Report Mileage for Hazardous Liquid or Carbon Dioxide Systems, Pipeline and Hazardous Materials Safety Administration, Available at: <https://www.phmsa.dot.gov/data-and-statistics/pipeline/annual-report-mileage-hazardous-liquid-or-carbon-dioxide-systems>. Accessed October, 2022.

⁴ "Integrity Testing Requirements for Hazardous Liquid Pipelines in California", California OSFM, Available at: <https://osfm.fire.ca.gov/media/eqcdxwpy/osfm-integrity-testing-requirements-manual-2021.pdf>. Accessed October, 2022.

from the federal Department of Transportation's Pipeline and Hazardous Materials Safety Administration (PHMSA). It will be important for CARB to encourage agency coordination to accelerate CDR/CCS.

- A provision in SB 905 prohibits use of pipelines to transport CO₂ until a federal rulemaking is completed by PHMSA,⁵ which could take years to finalize and will cause significant delays and interfere with State emission reduction targets. Indeed, the scant information available regarding PHMSA's timeline suggests that they will not even issue a Notice of Proposed Rulemaking (NPRM) until late 2024. The restriction on pipeline CO₂ transport pending PHMSA rulemaking would stall the majority of large-scale CCS project developments, and likely all developments of such projects at refineries. WSPA appreciates CARB's leadership on this topic, and its recognition in the Draft EA that this could indeed be an obstacle to implementing CCS projects needed for the State to reach its climate goals. WSPA encourages CARB to continue its leadership on this topic to avoid such an undesired outcome.
- Rather than create additional barriers for the utilization and commercialization of CDR/CCS technology, California must streamline permitting for CCS and mechanical CDR projects to ensure that California Environmental Quality Act (CEQA) and other regulatory proceedings do not unjustly stall or halt technologies that are crucial to meeting the goals of the Draft 2022 Scoping Plan Update. Unfortunately, SB 905 did not address this concern; indeed, it reiterated that it "shall not impair, abridge, or alter any rights or obligations under the California Environmental Quality Act".⁶ WSPA would like to reiterate the recommendation in the previous comment letter that CARB should work with the Office of Planning and Research to develop an improved project environmental review (under CEQA) and permitting process for the carbon reduction projects including CCS/CDR that are essential for the implementation and delivery of the Draft 2022 Scoping Plan Update.
- Further, the unilateral exclusion by SB 905 of any CCS project for enhanced oil recovery unreasonably eliminates significant amounts of pore space that could be utilized in the State. Importantly, this restriction also eliminates the possibility that oil with a low or even negative carbon intensity could be utilized for ongoing State demand, versus the use of imported oil that would likely have a higher carbon intensity.
- Finally, as noted in our comment letter dated June 24, 2022⁷, WSPA would reiterate the need for continued improvements to the Carbon Capture and Sequestration Protocol under the LCFS. In addition, it will be critical to ensure there is a methodology for crediting emissions reductions from CDR/CCS under the Cap-and-Trade program.

⁵ SB905, Section 71465(a), chaptered Sep 16, 2022. Available at: https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202120220SB905. Accessed October, 2022.

⁶ Ibid, Section 39471.2(c).

⁷ WSPA Comments on the Draft 2022 Scoping Plan Update dated June 24, 2022. Available at: <https://www.arb.ca.gov/lists/com-attach/4416-scopingplan2022-BnEAdVQIBTdRCAZn.pdf>. Accessed: October 2022.

CARB must quickly and effectively address these obstacles so that California can benefit from the expanded federal funding for CDR/CCS projects through 45Q incentives. The Inflation Reduction Act of 2022 has both significantly extended the window during which projects can begin construction, and increased 45Q tax incentives.⁸ Indeed, an expectation of over \$3 billion of available federal support for these activities⁹ could provide significant support to California's climate ambitions if projects in California can implement these important activities. It would be tragic if the State is unable to leverage this additional funding for in-State projects, resulting in both forgone greenhouse gas (GHG) emissions reductions as well as lost opportunities to employ Californians in the prevailing-wage jobs that would be needed to implement these projects.

The time is now for CARB and its sister agencies to demonstrate continued leadership to both truly streamline the State's permitting processes and ensure that the regulatory approaches in California are synchronized with the U.S. Department of Energy to ensure any projects that come on stream in the State will meet the federal requirements to qualify for 45Q incentives. WSPA stands ready to work with CARB to ensure that CDR/CCS can play the necessary role defined for these technologies in the Draft 2022 Scoping Plan Update.

2. WSPA asks CARB to expand their scope to include low carbon intensity (low-CI) fuels as long-term solutions in the Scoping Plan. This technology neutral, market-based approach can achieve California's GHG reduction goals in a more technologically and economically feasible manner.

The LCFS has established itself as a core component of California's climate portfolio. The California fuels industry is providing low-carbon renewable liquid and gaseous transportation fuels today, with projects announced for even more supply in the next few years. The use of renewable and low carbon fuels continues to grow in California and throughout the United States (**Figure 1**). As WSPA has previously stated, if all proposed projects and projects currently under production come online, U.S. renewable diesel production could total over 5 billion gallons per year by the end of 2024, which is over 7% of today's total U.S. diesel production and 142% of California's total diesel consumption in 2020.^{10,11}

⁸ "Carbon Capture Provisions in the Inflation Reduction Act of 2022", Available at: <https://cdn.catf.us/wp-content/uploads/2022/08/19102026/carbon-capture-provisions-ira.pdf>. Accessed October, 2022.

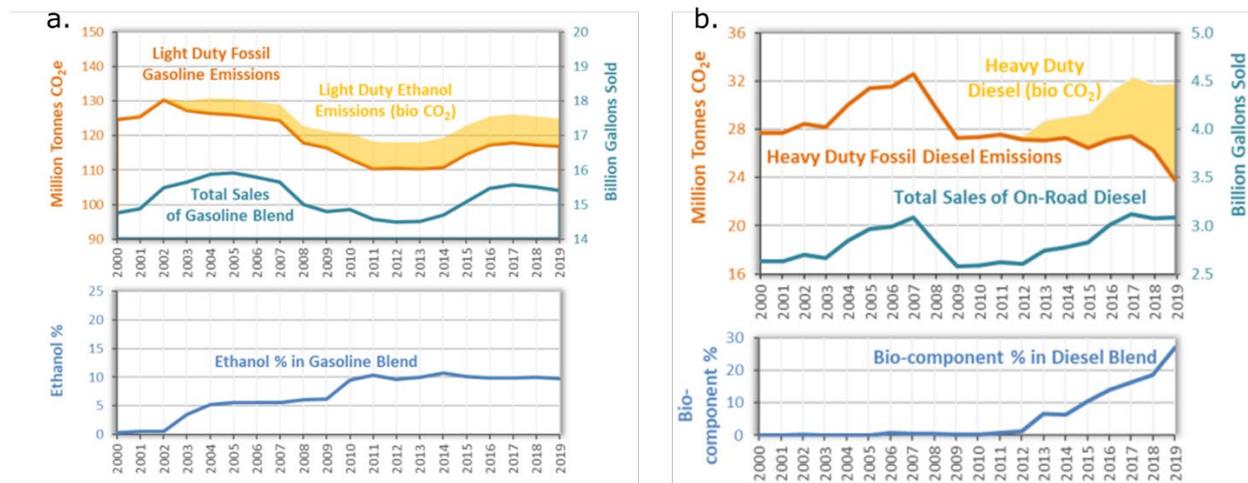
⁹ "Estimated Budgetary Effects of Title I, Committee on Finance, of H.R. 5376, the Inflation Reduction Act of 2022," Congressional Budget Office, at page 10. Available at: https://www.cbo.gov/system/files/2022-08/hr5376_IR_Act_8-3-22.pdf. Accessed October, 2022.

¹⁰ Energy Information Administration. U.S. renewable diesel capacity could increase due to announced and developing projects. Available at: <https://www.eia.gov/todayinenergy/detail.php?id=48916>. Accessed: September 2022.

¹¹ US Energy Information Administration. "Diesel fuel explained". Available at: [https://www.eia.gov/energyexplained/diesel-fuel/where-our-diesel-comes-from.php#:~:text=In%202020%2C%20U.S.%20refineries%20produced,barrels%20\(57.43%20billion%20gallons\)](https://www.eia.gov/energyexplained/diesel-fuel/where-our-diesel-comes-from.php#:~:text=In%202020%2C%20U.S.%20refineries%20produced,barrels%20(57.43%20billion%20gallons)). Accessed: September 2022.

Per CARB LCFS data, nearly 3.4 billion gallons per day of biodiesel and renewable diesel are currently supplied to California consumers,¹² which is 34% of current total California diesel demand, and CARB has publicly supported many of the announced renewable fuels projects.¹³

Figure 1: Trends in California Renewable and Low Carbon Fuels¹⁴



However, the long-term potential of low-CI fuels such as renewable diesel and renewable natural gas, in our opinion, appears to be minimized in the Draft 2022 Scoping Plan Update. While the Plan's modeling assumes continued use of petroleum and low-CI fuels in legacy internal combustion engine (ICE) vehicles, the vehicle transitions forced by the assumptions of Advanced Clean Cars II (ACC II), Advanced Clean Trucks (ACT) and the proposed Advanced Clean Fleets (ACF) implementation seem to box out the long-term value of low-CI fuels. CARB should encourage a wider variety of approaches to decarbonize the transportation sector rather than heavily relying on zero emission vehicle (ZEV) mandates.

The Ramboll Light Duty Auto (LDA) Study¹⁵ showed that a gradual transition to low-CI gasoline with current vehicle technologies (represented by the purple line in **Figure 2**) could achieve similar life-cycle GHG emissions as the current ZEV mandate in the Scoping Plan scenario.

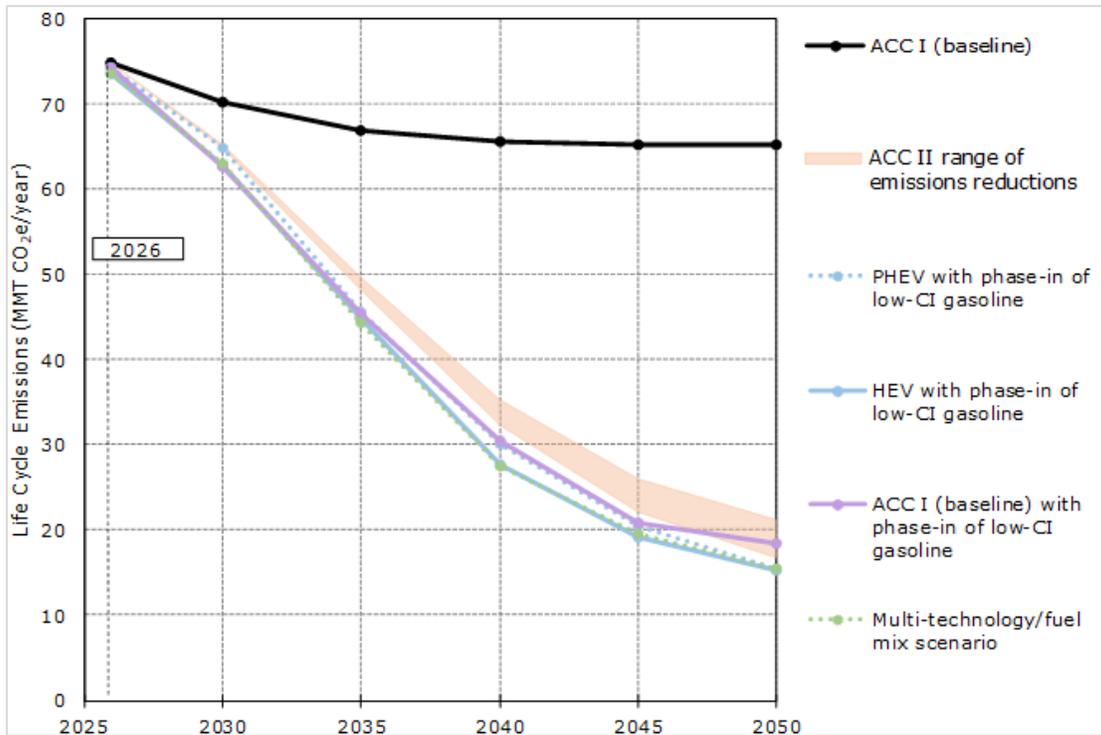
¹² CARB. 2022. Low Carbon Fuel Standard Quarterly Data Spreadsheet. July 31. Available here: https://ww2.arb.ca.gov/sites/default/files/2022-08/quarterlysummary_073122_0.xlsx. Accessed: October 2022.

¹³ CARB. Cleaner fuels have now replaced more than 3 billion gallons of diesel fuel under the Low Carbon Fuel Standard. Available at: <https://ww2.arb.ca.gov/news/cleaner-fuels-have-now-replaced-more-3-billion-gallons-diesel-fuel-under-low-carbon-fuel>. Accessed: October 2022

¹⁴ CARB. 2021. California Greenhouse Gas Emissions for 2000 to 2019. July 28. Available at: https://ww2.arb.ca.gov/sites/default/files/classic/cc/inventory/2000_2019_ghg_inventory_trends_20220516.pdf. Accessed: October 2022

¹⁵ Ramboll. 2022. Multi-Technology Pathways To Achieve California's Greenhouse Gas Goals: Light-Duty Auto Case Study. Available as Attachment D at: <https://www.arb.ca.gov/lists/com-attach/477-accii2022-AHcAdQBxBDZSeVc2.pdf>. Accessed: September 2022.

Figure 2: Life-Cycle (Vehicle and Fuel) Emissions for Key Scenarios in the Ramboll LDA Study - California Light Duty Automobile Fleet (2026 to 2050)¹⁶

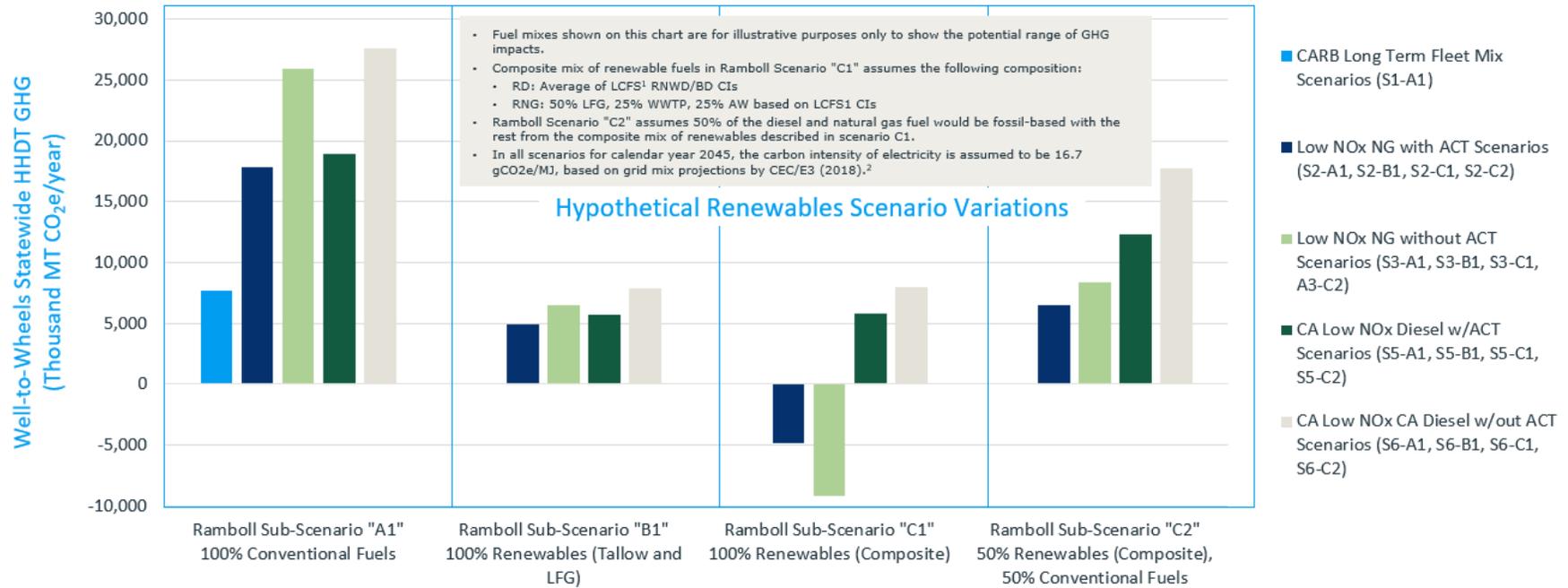


Similarly, the Ramboll Heavy Heavy Duty Truck (HHDT) case study¹⁷ demonstrated that multi-technology pathways, which include a combination of low-NO_x vehicle technologies and low-CI fuels (Ramboll Sub-Scenarios B1, C1, and C2 in **Figure 3**), could generate GHG reductions similar to CARB's ZEV mandate scenario and achieve the State's long-term climate goals. Hence, WSPA believes that the Draft 2022 Scoping Plan Update should remain technology/fuel neutral.

¹⁶ Ibid.

¹⁷ Ramboll. 2021. Multi-Technology Pathways To Achieve California's Greenhouse Gas Goals: Heavy-Heavy-Duty Truck Case Study. Available at: <https://www.arb.ca.gov/lists/com-attach/78-sp22-kickoff-ws-B2oFdgBtUnUAbwAt.pdf>. Accessed: October 2022.

Figure 3: 2045 Fuel Life-Cycle GHG Emissions in the Ramboll HHTD Study for the Statewide Heavy-Heavy Duty Truck Fleet with Hypothetical Renewable Fuel Mixes¹⁸



¹ CARB LCFS Fuel Pathway Table. Available at: https://ww3.arb.ca.gov/fuels/lcfs/fuelpathways/current-pathways_all.xlsx. Accessed July 2020

² CEC 2018. Deep Decarbonization in a High Renewables Future - Implications for Renewable Integration and Electric System Flexibility, Docket 18-IEPR-06 - 223869, Slide 10. Available online at: <https://efiling.energy.ca.gov/GetDocument.aspx?tn=223869&DocumentContentId=54081>

¹⁸ Ibid.

WSPA asks CARB to expand the Draft 2022 Scoping Plan Update to not preclude low-CI crude oil supplies and low-CI finished fuels such as renewable natural gas, renewable diesel and renewable gasoline, and other fuels that could significantly reduce carbon emissions through the application of CCS technologies. WSPA maintains that a technology neutral, market-based approach to achieving California's GHG reduction goals is more technologically and economically feasible. WSPA continues to encourage CARB to expand the utilization of low-CI fuels and broaden their use in hard-to-abate sectors. Specifically, WSPA encourages CARB to update incentives under the LCFS and to connect it to other sectors such as industrial processes.

3. WSPA agrees with CARB that a complete phaseout of oil and gas extraction and refining is not feasible by 2045, as noted in the Recirculated Draft EA. However, we also maintain that it is also not feasible to “phase down” refining in line with reduction in State demand because California is a major fuel provider to neighboring states and nearby countries.

A “phase down” of California refining operations in line with in-state demand is not feasible due to the significant volumes of transportation fuels that are exported to other jurisdictions, including to neighboring states (particularly Nevada and Arizona)¹⁹ as well as exports to countries such as Mexico.

Given that California refineries have responded to regulations that result in the provision of lower-emission fuels, this benefit is exported to these jurisdictions and will only grow as greater emission reductions ensue with in-state activities. Premising a phase down of California refining operations in line with in-state demand reductions would limit the potential to provide low-CI fuels to other regions and result in a net reduction of global GHG benefits. Said another way, it would cause GHG emissions leakage which CARB is required to avoid

Under AB 32, CARB has an obligation to minimize leakage resulting from its regulatory activities. As discussed in previous comment letters, CARB has repeatedly failed to adequately calculate, evaluate, and set forth policies to minimize the risk of leakage in accordance with its statutory duty.

The parallel premise of a phase down of California oil and gas extraction is equally if not more problematic. California has to import the majority of crude that is processed in the State; in 2020, only 31% of the 478 million barrels of crude supplied to California refineries was produced in the State.²⁰ There is thus capacity for the State to encourage production of lower-CI crude that can substitute foreign crude supply and further reduce the CI of fuel required within and supplied by the State. Indeed, with supportive policy approaches, California could play a pivotal role in production of negative CI crude that would support the

¹⁹ Energy Information Administration, West Coast Transportation Fuels Markets, September 2015. See Figure 5 on page 14. Available at: https://www.eia.gov/analysis/transportationfuels/padd5/pdf/transportation_fuels.pdf. Accessed: June 2022.

²⁰ CARB. 2021. LCFS Crude Oil Life Cycle Assessment. Available here: <https://ww2.arb.ca.gov/resources/documents/lcfs-crude-oil-life-cycle-assessment>. Accessed: October 2022.

State's climate goals. Given this, the smarter premise would be a phase in of low-CI crude from California.

WSPA believes that CARB should study the significant risk of leakage that could result from potential policies to limit future in-State oil and gas development that would accelerate the decline in the export of refined fuel products manufactured in California in order to meet its obligations under AB 32.

4. CARB's new vehicle miles traveled (VMT) reduction targets are too aggressive and there is no evidence to suggest they can be achieved.

The Recirculated Draft EA sets VMT reduction targets for passenger vehicles that are more aggressive than the previous draft proposal. The new targets include per capita VMT less than or equal to 18.5 miles/day and 17.2 miles/day in 2030 and 2045 respectively, which is equivalent to additional per capita VMT reductions of 3.2 miles/day in 2030 and 2 miles/day in 2045 compared to previous targets set forth in the Draft 2022 Scoping Plan Update dated May 10, 2022. These additional VMT reductions are highly optimistic given historical increases in VMT and the State's inability to achieve previous VMT targets.

Under SB 375, metropolitan planning organizations were directed to meet GHG emissions reduction targets by incorporating a Sustainable Communities Strategy (SCS) as part of the long-range regional transportation plans. But as noted in the CARB's most recent 2022 Draft SB 150 Progress Report,²¹ by 2019, the VMT per capita had increased by 4% compared to the program's 2005 base year. Observed historical VMT trends have shown continuous increases since the 2018 SB 150 Progress Report.²² Given these trends, setting up an even more aggressive statewide VMT target leads to great levels of uncertainty and risk that these policies will be unsuccessful.²³ As noted in the 2022 Draft SB 150 Progress Report,²⁴ there are numerous challenges associated with these types of VMT reductions which are dependent on factors outside CARB's purview such as gas prices, employment, availability of affordable housing, and the rebound from COVID pandemic.

Given the constraints and uncertainties of the VMT targets, CARB should consider the implementation of technology-neutral vehicle/fuel pathways that could achieve the GHG reductions needed to achieve the State's climate goals. The increased use of low and negative carbon-intensity drop-in fuels along with the penetration of fuel-efficient and alternative fuel vehicle technologies could provide GHG reductions with much greater certainty than the VMT reductions.

²¹ CARB. 2022. Draft 2022 Progress Report: California's Sustainable Communities and Climate Protection Act. Available at: https://ww2.arb.ca.gov/sites/default/files/2022-07/2022_SB_150_Main_Report_Draft_ADA.pdf. Accessed October, 2022.

²² CARB. 2018. 2018 Progress Report: California's Sustainable Communities and Climate Protection Act. Available at: https://ww2.arb.ca.gov/sites/default/files/2018-11/Final2018Report_SB150_112618_02_Report.pdf. Accessed October, 2022.

²³ CARB is required to consider technological feasibility in establishing its Scoping Plan Update. See HSC § 38561.

²⁴ CARB. 2022. Draft 2022 Progress Report: California's Sustainable Communities and Climate Protection Act. Available at: https://ww2.arb.ca.gov/sites/default/files/2022-07/2022_SB_150_Main_Report_Draft_ADA.pdf. Accessed October 2022.

5. The high-level programmatic CEQA analysis conducted for the Scoping Plan does not include the level of analysis to be relied upon in cumulative impact analyses for specific regulations developed based on this Scoping Plan.

CEQA requires that the Recirculated Draft EA contain “[a] discussion and consideration of environmental impacts, adverse or beneficial, and feasible mitigation measures which could minimize significant adverse impacts identified,” as well as “[a] discussion of cumulative and growth-inducing impacts.”²⁵ CARB has developed a high-level programmatic CEQA analysis for the 2022 Draft Scoping Plan Update. The CEQA analysis in the Recirculated Draft EA lacks details regarding the environmental impact analyses for individual programs and actions included in the Draft 2022 Scoping Plan Update, because it states that “the specific location, design, and setting of the potential actions cannot feasibly be known at this time.”²⁶ Failure to capture the full extent of environmental impacts of all actions in the Scoping Plan scenario will likely lead CARB to underestimate adverse impacts, such an incomplete analysis cannot sufficiently form the basis for future policy and regulatory decisions, and does not fulfill CARB’s CEQA obligations.

CARB should clarify that the Scoping Plan’s high-level programmatic CEQA analysis is not intended to be solely relied upon for future environmental analysis, particularly cumulative impact analyses, for subsequent programs and regulations. Rather, all future rules and/or regulations listed in the proposed scenario of the Draft 2022 Scoping Plan Update must conduct their own environmental impact analysis to ensure that all indirect and unintentional impacts, and cumulative impacts, from the rules and/or regulations are being considered. In recently adopted/proposed regulations such as the Advanced Clean Cars II program²⁷ and the proposed Advanced Clean Fleet regulation²⁸ CARB erroneously declined to perform a cumulative impact assessment based on the purported adequacy of the EA for the previous Scoping Plan Update.²⁹

6. WSPA requests that the Scoping Plan and subsequent EAs should develop a broad array of mitigation measures for all areas that will likely have significant impacts.

CEQA requires that the Draft EA contain “[a] discussion and consideration of environmental impacts, adverse or beneficial, and feasible mitigation measures which could minimize significant adverse impacts identified,” as well as “[a] discussion of cumulative and growth-inducing impacts.” Cal. Code Regs. tit.17, § 60004.2(a). As discussed in the previous comment, CARB’s Recirculated Draft EA is deficient in several respects – CARB is relying on a high-level programmatic CEQA analysis that does not quantify many reasonably

²⁵ Cal. Code Regs. tit.17, § 60004.2(a).

²⁶ See Recirculated Draft EA, at 43.

²⁷ CARB. 2022. Final Environmental Analysis for the Advanced Clean Car II Program, at 146-147. Available at: <https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2022/accii/acciifinalea.docx>. Accessed October 2022.

²⁸ CARB. 2022 Appendix D: Draft Environmental Analysis for Proposed Advanced Clean Fleets Regulation, at 111-12. Available at: <https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2022/acf22/appd.pdf>. Accessed October 2022.

²⁹ CARB. 2017. Appendix F: Environmental Analysis for Final 2017 Scoping Plan Update. Available at: https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/2030sp_appf_finalea.pdf. Accessed October 2022.

foreseeable environmental impacts (including, but not limited to, energy generation and energy infrastructure construction air quality and greenhouse gas impacts) even though these impacts are reasonably foreseeable and likely significant. CEQA requires CARB to present a comprehensive list of mitigation measures that would address potentially significant impacts of the programs, actions, or projects required for the implementation of the Draft 2022 Scoping Plan Update, which CARB has failed to do. For example, CARB has not identified a menu of potential mitigation measures for the following actions that are necessary for the success of the Draft 2022 Scoping Plan Update:

- zero emission vehicle manufacturing facilities;
- expansion of the electric grid to increase generation, distribution, and transmission;
- mining of rare earth metals for battery and solar photovoltaic (PV) system production;
- battery storage systems;
- electric vehicle charging infrastructure;
- hydrogen production projects;
- hydrogen fueling stations;
- off-shore wind turbines projects; and
- solar PV energy generation projects

While we understand that the exact location and/or level of impacts of these actions/projects are unknown, WSPA encourages CARB to develop a broad array of actionable mitigation measures for each of these types of actions/projects, which would serve as a toolbox that can be applied to them as they are proposed and undergo project-specific CEQA evaluations. In the Draft 2022 Scoping Plan Update, CARB should identify potential impacts and develop a menu of mitigation measures that would address these impacts. This would meet requirements to identify mitigation measures for foreseeably significant impacts and establish mitigation options for related future programs and actions that aim to accomplish the goals set out in the Scoping Plan.

7. CARB is obligated by AB 32 to minimize the "leakage" potential of any of their regulatory activities. CARB must estimate the emissions increases outside of California which could result from California's policies under the Draft 2022 Scoping Plan Update.

As noted in our previous comment letters, CARB has a responsibility under AB 32 to minimize the "leakage" potential of any regulatory activities, which includes the actions and policies outlined in the Draft 2022 Scoping Plan Update.³⁰ As part of this responsibility, CARB must first consider the emissions increases that could occur outside of the State as a result of the policies contained in this Draft 2022 Scoping Plan Update. Such shifts of economic activity and emissions could effectively negate the desired in-State emissions reductions. Specifically, CEQA Guidelines require CARB "to describe, calculate or estimate

³⁰ Health & Safety Code § 38562.

the amount of greenhouse gas emissions resulting from a project,” focusing on “the reasonably foreseeable incremental contribution of the project’s emissions to the effects of climate change.”³¹ Emissions related to leakage potential are reasonably foreseeable. It is impossible for CARB to assess any cumulative or incremental contributions to climate change stemming from emissions reduction measures contemplated in the Scoping Plan without assessing emissions outside California.

The current Draft Scoping Plan actions would require unprecedented levels of utility-scale solar power plant and battery energy storage development to upgrade electric infrastructure and increase penetration of battery electric vehicles, which would lead to significant growth of solar panel and battery production facilities. Most of these are outside of California. GHG emissions associated with these out-of-state activities that will be driven by California’s policies should be considered in the Scoping Plan analyses. As discussed in our June 24, 2022 comment letter,³² the vehicle life cycle emissions associated with the additional production, use, and disposal of battery electric vehicles (BEVs) for light duty vehicles (LDV) under the Proposed Scenario could equate to ~110 million metric tonnes (MMT) CO₂e.³³ Most of these emissions would likely occur outside California resulting in substantial “leakage”.

By excluding the upstream emissions impact of the production of ZEVs, CARB misrepresents the GHG impact of the Draft Scoping Plan. The Ramboll LDA Study found that the vehicle cycle emissions for a model year 2026 light duty BEV (10.1 metric tons (MT) CO₂e per vehicle) was about 74% higher than those for a MY 2026 light duty ICEV (5.8 MT CO₂e per vehicle) (**Figure 4**). 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 internal combustion engine vehicle (ICEV).

The same is true for the heavy-duty sector. A recently published study by the American Transportation Research Institute (ATRI)³⁴ analyzed the life-cycle emissions of a Class 8 Sleeper Cab vehicle and found that the vehicle production emissions for BEVs to be ~6 times higher than the corresponding ICE vehicle counterpart (**Figure 5**), producing approximately 478,000 pounds (lbs) of CO₂ per vehicle in comparison to the 74,700 lbs of CO₂ per ICEV. CARB must account for the significant emission increases associated with the production of a BEV, as compared to an ICEV, in their analysis to fully understand the impacts of the Draft Scoping Plan and potential for leakage due to unaccounted emissions.

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- ³¹ 2022 CEQA STATUTES & GUIDELINES § 15064.4. Available at: https://www.califaep.org/docs/2022_CEQA_Statute_and_Guidelines.pdf. Accessed: October 2022.
- ³² WSPA Comments on the Draft 2022 Scoping Plan Update dated June 24, 2022. Available at: <https://www.arb.ca.gov/lists/com-attach/4416-scopingplan2022-BnEAdVQIBTdRCAZn.pdf>. Accessed: October 2022.
- ³³ Estimated based on the incremental BEV vehicle stock projections for the Proposed Scenario versus Business as Usual (BAU) in 2045 as provided in the 2022 Scoping Plan Documents and Ramboll’s estimates for incremental vehicle life cycle emissions for BEVs as compared to ICEVs (presented in **Figure A-5** in WSPA’s previous comment letter on the 2022 Scoping Plan Update dated June 24, 2022).
- ³⁴ ATRI. 2022. Understanding the CO₂ Impacts of Zero-Emission Trucks. May 3. Available here: <https://truckingresearch.org/2022/05/03/understanding-the-co2-impacts-of-zero-emission-trucks/>. Accessed: October 2022.

Figure 4: Vehicle Cycle GHG Emission Factors for Different Vehicle Technologies

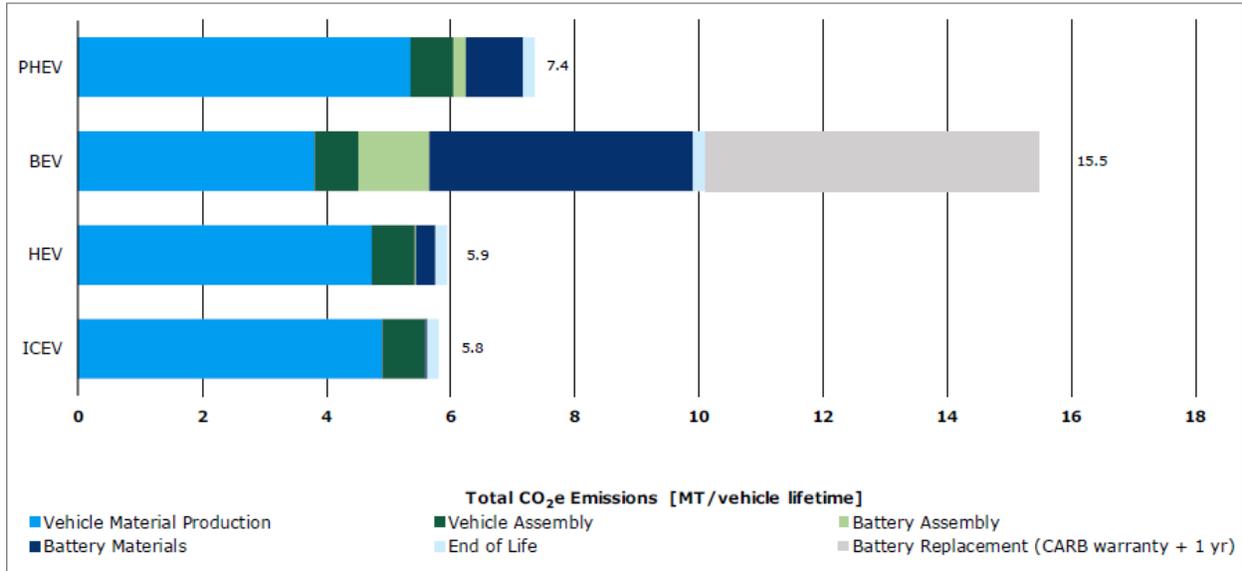
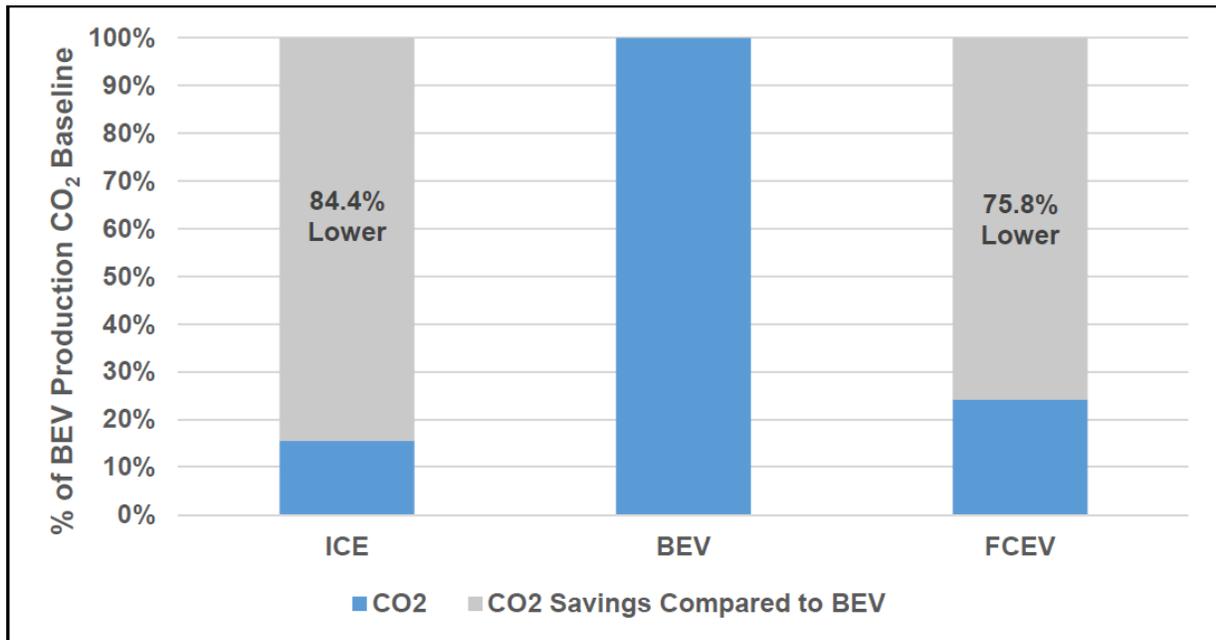


Figure 5: Vehicle Cycle Emissions from Class 8 Sleeper Cabs³⁵



The 2021 SB 100 Joint Agency Report³⁶ found that achieving 100% renewable energy in the electric grid by 2045 with existing generation resources would be infeasible. The SB

³⁵ Ibid.

³⁶ “SB 100 Joint Agency Report: Charting a path to a 100% Clean Energy Future”. California Energy Commission. Available at: <https://www.energy.ca.gov/publications/2021/2021-sb-100-joint-agency-report-achieving-100-percent-clean-electricity>. Accessed: September 2022.

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SB 1020 legislation³⁷ sets new interim targets for renewable energy in California and requires 90% zero-carbon energy by 2035 and 95% by 2040. SB 1020 also requires that the policy “shall not increase carbon emissions elsewhere in the western grid.” CARB and other State agencies must develop comprehensive analysis to estimate the emissions increases outside of California which result from leakage and policy-driven demand.

Closing

Thank you for the consideration of our comments. WSPA would welcome the opportunity to discuss these comments and recommendations in more detail with you. Please feel free to contact us at tderivi@wspa.org, jverburg@wspa.org, and sellinghouse@wspa.org, with any questions or concerns.

Sincerely,



Tanya DeRivi
Vice President
Climate Policy



cc: Jim Verburg – Director Fuels – WSPA

Sophie Ellinghouse – Vice President, General Counsel and Corporate Secretary – WSPA

³⁷ SB1020, Chapter 361, Statutes of 2022. Available at: https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202120220SB1020. Accessed October, 2022.