RESPONSE TO COMMENTS

on the

DRAFT ENVIRONMENTAL ANALYSIS

Prepared for the

Advanced Clean Cars II Program

California Air Resources Board
1001 I Street
Sacramento, California, 95814

Released August 24, 2022
to be considered at the
August 25, 2022 Board Hearing

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ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
BEV	battery electric vehicle
CalVTP	California Vegetation Treatment Plan
CAL FIRE	California Department of Forestry and Fire Protection
CARB or Board	California Air Resources Board
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CEC	California Energy Commission
CFR	Code of Federal Regulations
CPUC	California Public Utilities Commission
Draft EA	Draft Environmental Analysis
EIR	environmental impact report
EPA	U.S. Environmental Protection Agency
EV	electric vehicle
FCEV	fuel cell electric vehicle
GHG	greenhouse gas
ICEV	internal combustion engine vehicle
ISOR	Initial Statement of Reasons
kWh	kilowatt hour
NO_x	nitrogen oxide
PG&E	Pacific Gas & Electric
PHEV	plug-in hybrid electric vehicle
PM	particulate matter

$PM_{2.5}$	particulate matter less than or equal to 2.5 micrometers
PRC	Public Resources Code
PGM	platinum-group metal
PSPS	Public Safety Power Shutoff
ROG	reactive organic gases
RPS	Renewable Portfolio Standard
SB	Senate Bill
SCE	Southern California Edison
SMUD	Sacramento Metropolitan Utility District
SO_x	oxides of sulfur
US	United States
ZEV	zero-emission vehicle

1.0 INTRODUCTION

The California Air Resources Board (CARB) released a Draft Environmental Analysis (Draft EA) for the Advanced Clean Cars II Program, herein referred to as the Proposed Program (i.e., the proposed project under the California Environmental Quality Act [CEQA]) on April 12, 2022, for a 45-day public review and comment period that closed at the end of May 31, 2022. In addition, oral and written comments were accepted at a public hearing on June 9, 2022. CARB received hundreds of written and oral comments during that time. Staff released 15-day changes to the Proposed Program on July 12, 2022 (and corrected on July 13. 2022). The comment period on the proposed 15-day changes closed at the end of July 28, 2022. Staff released a second 15-day notice to add documents relied upon or incorporated by reference to the rulemaking record on August 8, 2022 with a comment period that closed on August 23, 2022. CARB staff will be returning to the Board on August 25, 2022 for final consideration of the Proposed Program. Written comment letters received are provided on CARB's website at https://www.arb.ca.gov/lispub/comm/iframe_bccommlog.php?listname=accii2022&_ga=2.146673396.1346155275.1657904003-1805581018.1619638948.

CARB staff carefully reviewed all comment letters received into the rulemaking record and at the public hearing on June 9, 2022 to determine which ones raised significant environmental issues related to the analysis in the Draft EA. This document includes CARB staff's written responses to that subset of comments and will be provided to the Board for consideration prior to it taking final action on the Proposed Program.

Although this document includes written responses only to those comments related to the Draft EA, all other comments received will be responded to in the Final Statement of Reasons for the Proposed Program. The public hearing notice and related rulemaking materials (i.e., Staff Report: Initial Statement of Reasons, and EA) for the Proposed Program are provided on CARB's website at https://ww2.arb.ca.gov/rulemaking/2022/advanced-clean-cars-ii.

A. Requirements for Responses to Comments

These written responses to public comments on the Draft EA are prepared in accordance with CARB's certified regulatory program to comply with CEQA. CARB's certified regulations state, in pertinent part:

> *California Code of Regulations (CCR), title 17, section 60004.2(b)(3). Response to Public Comment*
>
> *CARB shall evaluate comments on environmental issues received during the noticed comment period and shall respond as follows:*
>
> *(A) Comments received during the noticed public comment period regarding environmental impacts that may result from the proposed*

project shall be considered, and a written response shall be prepared where required by section 15088 of title 14 of the California Code of Regulations.

(B) CARB may, but is not required to, respond to late comments made outside the noticed comment period.

(C) When responding to a comment raising significant environmental impacts from a public agency, a written proposed response shall be provided to that agency at least 10 days prior to certifying an Environmental Impact Analysis.

(D) The response to comment may be prepared in the form of (1) a revision to the draft Environmental Impact Analysis, (2) a separate section in or attachment to the Final Environmental Impact Analysis, or (3) a separate response to comments document.

(E) The response to comment shall include the following:

1. Comments and recommendations concerning significant environmental issues received during the noticed public review period on the draft Environmental Impact Analysis, either verbatim or in summary;

2. A list of persons, organizations, and public agencies commenting on the draft Environmental Impact Analysis during the noticed public review period; and

3. The responses to significant environmental issues raised during the noticed public review period.

Public Resources Code (PRC) section 21091 also provides guidance on reviewing and responding to public comments in compliance with CEQA. While this section refers to environmental impact reports, proposed negative declarations, and mitigated negative declarations, rather than an EA, it contains useful guidance for preparing a thorough and meaningful response to comments.

PRC section 21091, subdivision (d) states:

(1) The lead agency shall consider comments it receives if those comments are received within the public review period.

(2) (A) With respect to the consideration of comments received, the lead agency shall evaluate any comments on environmental issues that are received

> *from persons who have reviewed the draft and shall prepare a written response pursuant to subparagraph (B). The lead agency may also respond to comments that are received after the close of the public review period.*
>
> *(B) The written response shall describe the disposition of each significant environmental issue that is raised by commenters. The responses shall be prepared consistent with section 15088 of title 14 of the California Code of Regulations.*

Title 14 CCR section 15088 (CEQA Guidelines) also includes useful information and guidance for preparing a thorough and meaningful response to comments. It states, in relevant part, that specific comments and suggestions about the environmental analysis that are at variance from the lead agency's position must be addressed in detail with reasons why specific comments and suggestions were not accepted. Responses must reflect a good faith, reasoned analysis of the comments.

Title 14 CCR section 15088 (a–c) states:

> *(a) The lead agency shall evaluate comments on environmental issues received from persons who reviewed the draft EIR and shall prepare a written response. The Lead Agency shall respond to comments received during the noticed comment period and any extensions and may respond to late comments.*
>
> *(b) The lead agency shall provide a written proposed response to a public agency on comments made by that public agency at least 10 days prior to certifying an environmental impact report.*
>
> *(c) The written response shall describe the disposition of significant environmental issues raised (e.g., revisions to the proposed project to mitigate anticipated impacts or objections). In particular, the major environmental issues raised when the Lead Agency's position is at variance with recommendations and objections raised in the comments must be addressed in detail giving reasons why specific comments and suggestions were not accepted. There must be good faith, reasoned analysis in response. Conclusory statements unsupported by factual information will not suffice.*

B. Comments Requiring Substantive Responses

In compliance with CEQA, CARB has prepared written responses to those comments that raise "significant environmental issues" associated with the proposed action, as outlined in title 17 CCR section *60004.2(b)(3)*. A total of 181 comments were submitted electronically on or before June 9, 2022, to the comment docket set up for the Proposed Program and its appendices, including the Draft EA. In addition, a total of 44 electronically submitted, written comment letters were submitted at the June 9, 2022 public hearing as well as many oral comments. An additional 33 comments were submitted on or before July 28, 2022 during the first 15-day subsequent comment

period. Lastly, an additional 8 comments were submitted on or before August 23, 2022 during the second 15-day subsequent comment period. Out of the 266 total comments received, 31 comment letters were determined to include comments raising significant environmental issues related to the Draft EA. CARB staff has provided written response to those comments under the guidance of CARB's certified regulatory program and CEQA. CARB staff was conservative and inclusive in determining which comments warranted a written response and even included comments that did not mention the analysis included in the Draft EA but did raise an issue related to potential adverse impacts related to the Proposed Program. CARB staff also received comments submitted during the subsequent 15-day comment periods, which were submitted outside the 45-day CEQA comment period. Some of these comments were submitted outside the scope of the 15-day comment period as well. Comments related to the Proposed Program's environmental impacts submitted after the 45-day CEQA comment period are untimely and do not require a response. (17 Cal. Code Regs., § 60004.2(b)(2).) Nevertheless, while it is not required to do so, CARB provided the responses below for transparency.

This document provides responses to the comments that CARB staff determined raise significant environmental issues related to the Draft EA. All other comments received will be responded to in the Final Statement of Reasons for the Proposed Program and all comments were taken into consideration when CARB staff returned to the Board for their final consideration at the August 25, 2022, Board hearing. All comment letters received, including those not responded to in this document are located at: https://www.arb.ca.gov/lispub/comm/iframe_bccommlog.php?listname=accii2022&_ga=2.146673396.1346155275.1657904003-1805581018.1619638948.

CARB acknowledges that a majority of the comments received were related to the economic impact the Proposed Program would have on automobile owners. The Draft EA is not meant to address economic, social, or financial issues associated with the Proposed Program. Rather, the purpose of CEQA and the Draft EA is to fully analyze and mitigate the Proposed Program's potentially significant physical impacts on the environment. As such, comments related to economic or financial concerns are outside of the scope of the Draft EA and not addressed in this response to comments document. However, these comments are acknowledged for the record and have been reviewed, including for potential environmental issues, by CARB staff prior to returning to the Board for final consideration. CARB staff will be responding to all comments received to date, including those received at the second Board Hearing, in the Final Statement of Reasons.

2.0 RESPONSES TO COMMENTS

The comment letters responded to in this document were coded by the order in which they were received. As stated above, a list of all the comment letters received, including those not responded to in this document are located at: https://www.arb.ca.gov/lispub/comm/iframe_bccommlog.php?listname=accii2022&_ga=2.146673396.1346155275.1657904003-1805581018.1619638948. Table 2-1 provides the list of comment letters that contain substantive environmental comments received. Responses are provided to the comments in this document that CARB staff determined raise significant environmental issues related to the Draft EA and require a response under CARB's certified regulatory program and CEQA. As previously explained, CARB staff was conservative and inclusive in determining which comments warranted a written response here and included comments that did not mention the analysis included in the Draft EA but did raise an issue related to potential adverse impacts related to the Proposed Program. Verbatim excerpts of the comments and responses to these comments are provided below.

In addition to the environmental comments addressed in this document, CARB staff will be responding to all other comments received to date, including those received at the second Board Hearing, in the Final Statement of Reasons. All comments received during the 45-day comment period, at the June 9, 2022, hearing, and both subsequent 15-day comment periods are part of the rulemaking record and were provided to Board members for their full consideration before acting on the Proposed Program, which will be considered during the August 25, 2022 Board hearing.

Table 2-1: List of Comment Letters Receiving Responses for CEQA Purposes

Comment Number	Date	Name	Affiliation
OP-4	4/18/2022	Eric Shoquist	none
OP-8	4/26/2022	Ronald Stein	PTS Advance
OP-16	5/11/2022	Robert Beerman	none
OP-20	5/23/2022	Dalton Kraus	none
OP-22	5/23/2022	Susan Dwyer	none
OP-25	5/24/2022	Cindy Knight	none
OP-29	5/25/2022	Santokh Sohal	none
OP-30	5/25/2022	Henry Marvin	none
OP-32	5/25/2022	Kenneth Post	none
OP-33	5/26/2022	Patrick Faubion	none
OP-34	5/26/2022	Bob Wiley	none
OP-42	5/26/2022	Marcus Gomez	California Hispanic Chamber of Commerce
OP-54	5/27/2022	Anthony Bento	California New Car Dealers Association
OP-62	5/28/2022	Richard Allum	none
OP-91	5/31/2022	Roger Braddy	none

Comment Number	Date	Name	Affiliation
OP-103	5/31/2022	Brian Mello	Associated General Contractors of California
OP-114	5/31/2022	Robert O'Koniewski	Massachusetts State Automobile Dealers Association
OP-117	5/31/2022	Laurel Moorhead	Transfer Flow, Inc.
OP-119	5/31/2022	Robert Lapsley	California Business Roundtable
OP-121	5/31/2022	Jennifer Hernandez	The 200
OP-122	5/31/2022	Jennifer Hernandez	The 200
OP-123	5/31/2022	Michael Saragosa	Vice Mayor of the City of Placerville
OP-129	5/31/2022	Patty Poire	Kern County Farm Bureau
OP-140	5/31/2022	Trivia Stever Blattler	Tulare County Farm Bureau
OP-141	5/31/2022	Elizabeth Bourbon	Valero
OP-161	5/31/2022	Jim Verburg	Western States Petroleum Association
OP-165	5/31/2022	Elise Oliver	None
15-5	7/21/2022	Peter Treydte	Specialty Equipment Market Association
15-23	7/28/2022	James Enstrom	UCLA (Retired Prof) and Scientific Integ.
S-15-2	8/16/2022	Jennifer Hernandez	The 200
S-15-3	8/20/2022	Thomas Becker	T. Becker Power Systems

A. Master Responses

The following Master Responses address recurring themes within the comments listed in Table 2-1. Master Responses are also cross-referenced within the individual responses, where applicable.

1. Master Response 1: Grid-Related Energy and Infrastructure Limitations for Electric Vehicle Use and Relationship to Planned Service Power Shutoffs

Comment:
Numerous comments were made during the Draft EA comment period related to increased electric vehicle (EV) usage from the Proposed Program. Commenters expressed concerns that the electrical grid may not be capable of meeting the electricity demand generated from charging EVs. Another concern pertained to limited infrastructure throughout the state to charge EVs. Lastly, several comments expressed concerns that charging EVs would be infeasible during periods of Public Safety Power Shutoff (PSPS) events and unplanned power outages.

Response:
Guidance on evaluation of energy impacts in CEQA Guidelines Section 15126.2(b) states that the "analysis is subject to the rule of reason and shall focus on energy use that is caused by

the project." It is foreseeable that implementation of the Proposed Program, among other regulatory mechanisms such as the Renewable Portfolio Standard overseen by the California Energy Commission (CEC), the California Public Utilities Commissions (CPUC), and utilities throughout the state; Senate Bill (SB) 32; and guidance developed by local air districts that recommend decarbonizing new development and use of EV chargers, would induce electricity and hydrogen demand, while dramatically reducing fossil fuel usage, and change the composition of the electrical grid as the state continues to pursue its long-term GHG reduction goals of carbon neutrality by 2045. However, given CEQA does not require energy use forecasting, it is not necessary for the Proposed Program to project if there is sufficient supply of electricity overall.

As noted in the Initial Statement of Reasons (ISOR), electric vehicles will rely on the electric grid to provide consistent, on-demand power to fuel vehicles. Historically, the state's electric grid has expanded and evolved as consumer demand for electricity services has grown, including with the recent emergence of electric vehicles. California's existing grid and approved investments being undertaken now will allow the state to handle millions of electric vehicles in the near-term, and projections show the broader western grid can handle up to 24 million electric vehicles without requiring any additional power plants.[1] As identified in Table 3 of the Draft EA, the Proposed Program is anticipated to result in about 12 million battery electric vehicles cumulatively by 2035.

Longer term, transitioning to 100 percent passenger vehicle electrification is achievable with a gradual build-out of clean energy resources – more gradual than during times of peak electricity sector growth in the past given electric vehicle loads can be distributed over non-peak hourly periods. Several studies have shown no major technical challenges or risks have been identified that would prevent a growing electric vehicle fleet at the generation or transmission level, especially in the near-term.[2, 3] Additionally, based on historical growth rates, sufficient energy generation and generation capacity is expected to be available to support a growing electric vehicle fleet.[4, 5]

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[1] Kintner-Meyer, Michael, S. Davis, S. Sridhar, D. Bhatnagar, S. Majserejian, and M. Ghosal. 2020. Electric Vehicles at Scale – Phase I Analysis: High EV Adoption Impacts on the Western U.S. Power Grid. Pacific Northwest National Laboratory. July. https://www.pnnl.gov/sites/default/files/media/file/EV-AT-SCALE_1_IMPACTS_final.pdf.

[2] U.S. DRIVE. 2019*. Summary Report on EVs at Scale and the U.S. Electric Power System.* U.S. Driving Research and Innovation for Vehicle Efficiency and Energy Sustainability (DRIVE). November 2019. Accessed March 10, 2022. https://www.energy.gov/sites/prod/files/2019/12/f69/GITT%20ISATT%20EVs%20at%20Scale%20Grid%20Summary%20Report%20FINAL%20Nov2019.pdf.

[3] Matteo Muratori et al. 2021. "The rise of electric vehicles—2020 status and future expectations." Prog. Energy 3, 022002. March 25. https://iopscience.iop.org/article/10.1088/2516-1083/abe0ad/pdf

[4] US DRIVE 2019.

[5] Abhyankar, Nikit, Umed Paliwal, Taylor McNair, David Wooley, Michael O'Boyle, and Amol Phadke. 2021. Powering America's Clean Economy: A Supplemental Analysis of the 2035 Report. University of California, Berkeley Goldman School of Public Policy. https://energyinnovation.org/wp-content/uploads/2021/04/2030-Report-FINAL.pdf.

California's electric grid is in a period of transition, with several thousand megawatts of firm and dispatchable resources currently slated to be retired over the next few years, including gas-fired facilities through cooling coastal power plants and potentially the Diablo Canyon Nuclear Power Plant. At the same time, the State continues to rapidly expand deployment of renewables and plan for greater electrification – which, paired with the clean electricity grid target[6] established under The 100 Percent Clean Energy Act of 2018, SB 100,[7] – is designed to help achieve carbon neutrality no later than 2045. Because the State is proposing to lean heavily on the electricity sector to transition away from fossil fuels in the transportation, buildings, and industrial sectors, the demand for electricity will be increasing between now and 2045.[8] This load increase must be supported by sustained and significant build-out of electricity infrastructure in the form of generation, energy storage, and transmission and distribution infrastructure. At the same time, the integration of greater amounts of variable renewable resources (e.g., wind and solar photovoltaic) and the increasing and unpredictable extreme-weather impacts of climate change mean that strategies for ensuring grid reliability are also needed. New dispatchable capacity, energy storage, and other zero-carbon resources, as well as demand-side management through measures like requirements for greater building and appliance energy efficiency, can be utilized to maintain reliability with high concentrations of renewables.

State agencies and electric utilities have begun proactively planning for electrical distribution upgrades and new load for electric vehicles via statewide energy system planning processes, including the CEC's Integrated Energy Policy Report (IEPR) forecasting and Zero-Emission Vehicle Infrastructure Plan (ZIP),[9] California Independent System Operator (CAISO) transmission planning,[10] and the CPUC's Integrated Resource Plan (IRP) proceeding for 10-year grid enhancement strategies. The CPUC has a comprehensive Integrated Resource Plan and Long-Term Procurement Planning process that evaluates electricity needs on a ten-year time horizon and then authorizes the procurement.[11] The process evaluates reliability needs of the overall electric system, local reliability needs specific to areas with transmission limitations, and flexibility needs like the resources required for renewable energy integration. Using inputs from the CEC's Energy Demand Forecast and CAISO new needs are identified and additional procurement is authorized. In February 2022, under the 2021 Preferred

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[6] California Energy Commission, California Public Utilities Commission, and California Air Resources Board. 2021. SB 100 Joint Agency Report: Achieving 100 Percent Clean Electricity in California: An Initial Assessment. March. Accessed July 8, 2022. https://efiling.energy.ca.gov/EFiling/GetFile.aspx?tn=237167&DocumentContentId=7 0349.

[7] Stats. 2018, ch. 312.

[8] California Air Resources Board. 2022. Draft 2022 Scoping Plan Update. May 10. Accessed July 8, 2022. https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2022- scoping-plan-documents.

[9] Lopez, Thanh and Madison Jarvis. 2022. Draft Zero-Emission Vehicle Infrastructure Plan (ZIP). California Energy Commission. Publication Number: CEC-600- 2022-054. April. https://www.energy.ca.gov/sites/default/files/2022-04/CEC-600-2022- 054.pdf.

[10] California ISO. 2022. 20-year Transmission Outlook: CA ISO's 20-Year Outlook. January 31. Accessed July 8, 2022. http://www.caiso.com/InitiativeDocuments/20-YearTransmissionOutlook-May2022.pdf.

[11] California Public Utilities Commission. 2020. Order Instituting Rulemaking to Continue Electric Integrated Resource Planning and Related Procurement Processes. May 14. https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M337/K641/337641522.PDF.

System Plan, the CPUC approved procurement of potentially $49 billion in electric system upgrades by 2032.[12] The CPUC's preliminary analysis of the load serving entities in its preferred system plan portfolio indicates there is sufficient space for the new resources, including approximately 25,500 MW of new supply-side renewables, on the existing transmission system with only limited transmission upgrades needed by 2032. This finding will be validated at a more granular level by CAISO in its 2022-2023 Transmission Planning Process.[13]

The CPUC has already approved utility investments for upgrading the electric grid along with electricity rate changes to fund those investments. The CPUC opened a new proceeding to modernize and prepare the grid in anticipation of multiple distributed energy sources. With this new proceeding, the CPUC aims to evolve grid capabilities to integrate distributed energy sources including electric vehicle charging. The CPUC also approved time-of-use (TOU) rates, which provide signals to consumers in the form of electricity rate changes at different times of the day that would impact the cost of fueling for electric vehicle drivers that charge at home to encourage fueling at time when demand is low, such as overnight. This decision was made to optimize grid resources, maintain grid reliability, and provide reasonable rates for residential electric vehicle charging. Additionally, recent policy changes allow investor-owned utilities in California to establish rules and tariffs under general rate case proceedings for electrical distribution infrastructure on the utility side of the meter to support charging stations, which facilitate transportation electrification.

The CEC's Energy Demand Forecast is updated annually as part of the Integrated Energy Policy Report and uses various data sources such as CARB's Mobile Source Strategy, vehicle inventory, approved electrification regulations, and CEC forecasting from the AB 2127 EV Charging Infrastructure Assessment. In addition, each utility creates an Integrated Resource Plan, which is a comprehensive planning document for the utility, that also feeds into the procurement planning process. All these inputs allow for a comprehensive assessment and a better understanding of grid impacts and infrastructure needs at the regional and local level.

Staff recognizes that as fire risk in California has grown, the CPUC and investor-owned utilities (IOUs) have implemented a significant number of power outages to mitigate the risk of accidental ignition from damaged utility equipment. A wide variety of environmental and economic influences affect the timing and length of PSPS and similar events, including the state of vegetative cover, wind speed, temperature, and subjective decision-making by a utility company. While the CPUC considers PSPS outage events as safety-related (as opposed to an unplanned outage from an equipment failure or traffic accident), all grid outages create uncertainty for vehicle fueling. Therefore, understanding how utilities are addressing and mitigating supply disruptions is critical. The CPUC has directed the establishment of PSPS

[12] California Public Utilities Commission. 2021. Decision Adopting 2021 Preferred System Plan. Rulemaking 20-05-003. December 22. https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M449/K173/449173804.PDF.
[13] California ISO. 2022. 2022-2023 Transmission Planning Process Unified Planning Assumptions and Study Plan. June 30. http://www.caiso.com/InitiativeDocuments/FinalStudyPlan-2022-2023TransmissionPlanningProcess.pdf.

event policies to guide the behavior of the major IOUs, such as Pacific Gas and Electric (PG&E), Southern California Edison (SCE), and San Diego Gas and Electric (SDG&E). Efforts are underway at the major IOUs to address PSPS impacts on charging infrastructure, including improving communication, studying feasibility of grid-independent EV charging stations, and EV charging with backup generation. Designing charging infrastructure to include energy storage and clean back-up power generation can play an important role during emergencies. The CPUC with the CEC's support, leads ongoing efforts to develop standards, protocols, guidelines, methods, rates, and tariffs that serve to support and reduce barriers to microgrid deployment. The recent CPUC Decision 20-06-017, for example, has potential to build support for distributed generation using localized microgrids that provide resiliency during power loss events, such as PSPS events and other declared emergencies.[14]The expectation is that the frequency and duration of planned PSPS events will gradually diminish as the grid is hardened to wildfires.

Outside of PSPS events, the utility industry follows reliability, outage, and resource adequacy standards from various regulators like the North American Electric Reliability Council, broadly known as NERC, as well as the CPUC and other sources. In addition, utilities have adopted short-term reliability standards to help monitor unscheduled power outages locally, such as outages from storms, car accidents with utility -poles, or equipment failures. These reliability standards are stringent and allow for an acceptable outage risk of typically one to two hours per year. PSPS events are outside of the scope of the Draft EA and are a recurring problem that have occurred throughout recent decades for a myriad of reasons.

A resilient and reliable electric grid is the backbone for the smooth functioning of today's transportation sector (powering petroleum refineries, moving fuels along pipelines across the state, pumping fuel at gas stations, charging an electric vehicle, etc.) and will continue to be paramount for maximizing charging options in a future with many electric vehicles on the road. During a power outage, gas station pumps and electric vehicle charging stations all lose power and are not able to function without intervention, so charging a plug-in electric-vehicle but also refueling any vehicle may be a challenge. However, the daily needs of most vehicles are well below 100 miles per day such that a given battery-electric vehicle (BEV) could operate more than one day without charging. It is also likely that a ZEV may have sufficient charging capacity to access a public charging station where the station has been strategically reinforced with stationary storage, batteries, onsite generation, or supply from a microgrid.

Moreover, the automotive industry is advancing technology and design features of ZEVs to facilitate the use of stored electricity in car batteries to power homes during PSPS events and unplanned power outages, creating a benefit to a household beyond that with a conventional vehicle. Bidirectional charging, which is a feature currently available in Ford's F-150 Lightning, Nissan's Leaf (ZE1), Mitsubishi's Outlander, and Eclipse's plug-in hybrid are

[14] California Public Utilities Commission 2020. Decision 20-06-017: Decision Adopting Short-Term Actions to Accelerate Microgrid Deployment and Related Resiliency Solutions. June 17. Accessed August 8, 2022. https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M340/K748/340748922.PDF.

capable of sensing when a power outage occurs and automatically feeding power back to a home through the vehicle's charging port. For example, the F-150 Lightning and its Intelligent Backup Power, can automatically power a house if the electricity goes out. Once power is restored, the truck automatically reverts to charging its battery. Based on an average 30 kWh of use per day, a fully charged F-150 Lightning with extended-range battery provides full-home power for up to three days.[15] Additionally, Tesla's Powerwall batteries are capable of storing up to 13.5 kilowatt-hours (kWh) of electricity and may be relied upon by consumers to secure and store electricity for use during PSPS events and unplanned outages. Thus, as these technologies continue to be developed, ZEVs and home battery storage systems may provide greater electrical security to homes during PSPS events and unplanned power outages relative to ICEVs.[16]

Work is ongoing to support the development of vehicle-to-grid capacity, or back feeding into the grid. California has already approved changes to grid connection rules that will open the door for the interconnection of ZEVs with two-way charging capabilities to the grid.[17] This vehicle-to-grid concept will allow ZEVs to work as backup power stations or virtual power plants to help during a power outage or emergency. Electric vehicles also have the potential to serve as secondary storage to help with curtailment where additional demand can absorb excess grid capacity, and vehicle smart charging systems can help manage load to ensure that only critical charging is done during peak demand hours. The potential for vehicle-to-grid technology, where vehicles can support electricity load, holds promise in supporting grid resiliency in the future.

CARB is also working in tandem with the CEC to invest in the charging infrastructure and technologies needed to transition on-road mobile source to ZEVs throughout the state through its Clean Transportation Plan. CEC and CARB are also supporting strategic regional planning efforts (i.e., regional transportation plans/sustainable communities strategies) to support adoption of ZEVs. CEC is the primary state agency leading this transition and is building a corridor of conveniently located direct-current fast chargers to allow drivers of EVs with the freedom to travel throughout the state. As of March 2022, California had approximately 79,000 public and shared EV charging stations, including over 7,000 direct current fast changers, with additional investments underway to meet the 2025 goal of 250,000 public and shared EV charging stations as directed by Executive Order B-48-18. Pursuant to Assembly Bill (AB) 2127,[18] CEC is required to publish a biennial report on the charging needs and other programs to accelerate the adoption of electric vehicles. The CEC

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[15] Ford Motor Company. 2022. *F-150 Lightning ™ General Product Frequently Asked Questions (FAQs).* Accessed August 8, 2022. https://www.ford.com/support/how-tos/owner-resources/f-150-lightning/f-150-lightning-product-frequently-asked-questions/#11.

[16] Bolorinos, Jose. 2021. EVs can make California's grid more fire-safe and resilient. Will it seize the opportunity? Stanford Precourt Institute for Energy. January 31. Accessed June 16, 2022. https://energy.stanford.edu/news/evs-can-makecalifornia-s-grid-more-fire-safe-and-resilient-will-it-seize-opportunity.

[17] California Public Utilities Commission. 2022. *Rule 21 Interconnection.* Accessed August 8, 2022. https://www.cpuc.ca.gov/Rule21/.

[18] Stats. 2018, ch. 365.

has several concurrent analysis and modeling efforts covering these identified areas, and CEC staff have reported on charging infrastructure needs to meet the goal of 100 percent ZEV and plug-in hybrid electric vehicle (PHEV) sales by 2035. Additionally, CEC's draft ZIP describes the state's near- and long-term actions, in collaboration with the private market, to ensure that zero-emission vehicle infrastructure will meet the needs of the growing zero-emission vehicle market.[19]

For more information on California's plug-in and hydrogen electric vehicle infrastructure status, public investments, and grid readiness, please see ISOR section III.A.6.a "California Complementary Policies."

Separate from the Proposed Program and California's other programs, policies, and plans to support zero-emission vehicles with adequate fuel supply and infrastructure, the federal government recently enacted legislation providing significant support for ZEVs. The Inflation Reduction Act of 2022[20] provides significant tax credits for new and used ZEVs (reviving the credit up to $7,500 for new and adding a credit up to $4,000 for used light-duty vehicles),[21] electric vehicle charging infrastructure (up to $1,000 credit for residential installations and up to $30,000 credit for commercial installations),[22] and other support for clean transportation technology. While the Inflation Reduction Act and other vehicle electrification efforts and incentives are anticipated to independently drive some of the transition that is already underway toward ZEVs (including some of the compliance responses analyzed in the EA for the Proposed Program), CARB has nonetheless conservatively analyzed the full range of reasonably foreseeable environmental effects that may result from the Proposed Program.

The Proposed Program is also structured such that the state and its residents would transition to a greater percentage of ZEVs well into the future (2040). The schedule of the Proposed Program allows for flexibility in how ZEVs would be deployed into the future. Notably, the Proposed Program would not establish a requirement for any resident to purchase an EV by a certain year or cease using a conventional vehicle, but rather provides requirements for ZEV sales for automakers. This enables automakers to tailor sales of EVs to certain parts of the state better suited in the early years with infrastructure support or classes more suitable for zero-emission technology. Further, the Proposed Program allows up to 20% of an automaker's compliance with PHEVs, which are not solely dependent on electricity as a fuel and can be an attractive option in areas of the state where it may take longer to deploy public charging or for uses where battery capacity is a limitation. It is the objective of the Proposed Program to increase the economic feasibility of purchasing a ZEV while also promoting connectivity and mobility improvements to the EV charging network throughout the state.

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[19] California Energy Commission, Draft Zero-Emission Vehicle Infrastructure Plan, Pub. No. CEC-600-2022-054, April 1, 2022.
[20] Pub.L. No: 117-169 (Aug. 16, 2022) 136 Stat. 1818.
[21] *Id.*, §§ 13401, amending 26 U.S.C. § 30D, and 13402, adding 26 U.S.C. § 25E.
[22] *Id.*, § 13404, amending 26 U.S.C. § 30C.

As disclosed in the Draft EA, the Proposed Program would indirectly result in the construction of new hydrogen fueling stations and electric vehicle charging stations, as well as potential electrical grid expansion to support ZEV operations. Likewise, increased deployment of ZEVs would result in an increase in production and distribution of electricity and hydrogen fuel. Reasonably foreseeable potential environmental impacts for these anticipated compliance responses were fully analyzed and disclosed within each of the resource areas in Chapter 4 of the Draft EA. However, CARB cannot predict the location, design, or setting of specific projects that may result and, moreover, does not have authority over implementation of specific infrastructure projects that may occur. Therefore, the programmatic analysis in the Draft EA does not allow for identification of the precise details of project-specific mitigation. As a result, there is inherent uncertainty in the degree of feasible mitigation that would ultimately need to be implemented to reduce any potentially significant impacts identified in the Draft EA.

As described in the mitigation measures included in Chapter 4 of the Draft EA, proponents of the new or modified facilities or infrastructure constructed as a result of reasonably foreseeable compliance responses would coordinate with State or local land use agencies to seek entitlements for development including the completion of all necessary environmental review requirements (e.g., CEQA). The local or State land use agency or governing body must follow all applicable environmental regulations as part of approving a project for development. Therefore, it is expected that many potentially significant impacts of facility and infrastructure projects would be avoidable or mitigatable to a less-than significant level as an outcome of their project-specific environmental review processes, conducted by the appropriate permitting agency with jurisdiction as the lead agency under CEQA.

2. Master Response 2: Semi-Precious Metal Availability and Mining Impacts

Comment:
Some commenters expressed concerns that the Proposed Program's objective to electrify the on-road vehicle fleet would result in increased demand for lithium, among other semi-precious metals, such that global supply would not be capable of meeting this demand. Comments to the Draft EA also expressed concern regarding the potential adverse environmental effects from increased mining activity of lithium and other semi-precious metals.

Response:
The Draft EA makes a good faith effort to disclose the potentially adverse environmental impacts related to the mining, manufacturing, and recycling of lithium-ion and even nickel-hydride batteries throughout its analysis consistent with section 15002(g) of the State CEQA Guidelines.[23] Potentially adverse impacts related to mining activities are identified in various portions of the Draft EA including Impacts 1-1, 3-2, and 4-2, among other impacts. The Draft

[23] California Code of Regulations, title 14.

EA analysis draws conclusions and makes disclosures while avoiding mere speculation that is not allowed under CEQA.

As emphasized in the Draft EA throughout Chapter 4 following the recommendation of resource-specific project-level mitigation measures, the authority to determine project-level impacts and require project-level mitigation lies with land use and/or permitting agencies for individual projects, and the programmatic level of analysis associated with the Draft EA does not attempt to address project-specific details of mitigation; there is inherent uncertainty in the degree of mitigation that may ultimately be implemented to reduce potentially significant impacts. The Draft EA makes a good faith effort to disclose potentially significant impacts and proposes project-level mitigation measures that could be implemented to reduce impacts. Pursuant to section 15002(g) of the CEQA Guidelines, the Draft EA identifies a significant effect, and CARB, the legal entity approving the Proposed Program, determines whether the adverse environmental effects can be substantially reduced and explains why they may not. In the context of the Draft EA, and the potentially significant impacts identified that may occur outside of the state, CARB cannot, without speculating, precisely predict the locations of these impacts nor account for the regulatory environment that may be capable of reducing impacts to a less-than-significant level. For instance, mining activities that occur overseas in countries that may have fewer regulations in place to mitigate environmental impacts are beyond CARB's authority to mitigate or regulate. Nevertheless, these potential adverse impacts are identified and disclosed in the Draft EA.

CARB recognizes that its rules and regulations aimed to decarbonize the state through the use of zero-emission technology may induce new demand for various metals including lithium, graphite, cobalt, nickel, copper, manganese, chromium, zinc, and aluminum; however, CARB and the Proposed Program are not solely responsible for an increase in demand for these metals. The federal government recently enacted legislation providing significant support for ZEVs. The Inflation Reduction Act of 2022[24] provides significant tax credits for new and used ZEVs[25] and electric vehicle charging infrastructure.[26] It provides an advanced manufacturing tax credit for production of critical minerals used in ZEV batteries,[27] appropriates $500 million for "enhanced use" under the Defense Production Act to incentivize critical mineral production.[28] It authorizes the Department of Energy to commit up to an additional $40 billion in loan guarantees (on top of an existing program of $24 billion) for innovative technologies - which includes projects that avoid GHGs and other air pollutants or that employ new or improved technologies.[29] Various international efforts are also underway to electrify the mobile-source sector pursuant to commitments made in the

[24] Pub.L. No: 117-169 (Aug. 16, 2022) 136 Stat. 1818.
[25] *Id.*, § 13401, amending 26 U.S.C. § 30D.
[26] *Id.*, § 13404, amending 26 U.S.C. § 30C.
[27] *Id.*, § 13502, adding 26 U.S.C. § 45X.
[28] *Id.*, § 30001.
[29] *Id.*, § 50141.

European Union,[30] United Nations (UN) Paris Accord, Kyoto Protocol, and by members of the Under2 Coalition, among others. It is also important to note that ICEVs require aluminum alloys, magnesium, iron, and steel, which are all metals that already require extensive mining with similar physical impacts to the environment that were identified in Chapter 4 of the Draft EA, including loss of habitat, agricultural resources, and forests; water, air, and noise pollution; and erosion. As a result, while federal and international action are likely to independently cause environmental impacts related to critical minerals, including those impacts analyzed in this EA for the Proposed Program, CARB has nonetheless conservatively analyzed the full range of reasonably foreseeable environmental effects that may result from the Proposed Program

In response to the industry's electrification commitments and potential obligations, the recycling of lithium-ion batteries is increasing, as discussed in pages 32 to 39 of the Draft EA, to ensure that minerals are recovered and reused instead of discarded.[31] Policy recommendations aimed at ensuring that as close to 100 percent as possible of lithium-ion vehicle batteries in the state are reused or recycled at end-of-life in a safe and cost-effective manner have also been submitted to the California Legislature by the Lithium-Ion Car Battery Recycling Advisory Group.[32] Additionally, new sources of lithium, among other minerals, have been identified internationally and domestically, including new mining in the Imperial Valley, which the CEC's Lithium Valley Commission estimates may have sufficient lithium supplies to meet 40 percent of the world's total lithium demand, coupled with renewable energy and more sustainable extraction processes (a final report is expected to be submitted to the State Legislature by October 2022). Industry is also rapidly moving to batteries with different chemistries or formats to address concerns with mineral supply chain issues or human rights concerns (see Draft EA pages 28-30). Moreover, as a component of the Proposed Program, CARB is proposing that ZEV batteries provide a label to enable second use and recycling processes to conserve semi-precious metals used in the manufacturing process of ZEV batteries. The Proposed Program also includes provisions that would result in longer-lasting ZEVs, such as minimum requirements for range and durability, that could help reduce disposal impacts from ZEVs when compared to ICEVs.

Pages 118–124 of the Draft EA summarize potential short-term construction-related and long-term operational-related effects to mineral resource impacts and discloses data pertaining to worldwide production and reserves for lithium, nickel, cobalt, platinum, and palladium. Appendix G of the CEQA Guidelines considers an impact on mineral resources to

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[30] Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL amending Regulation (EU) 2019/631 as regards strengthening the CO2 emission performance standards for new passenger cars and new light commercial vehicles in line with the Union's increased climate ambition, COM/2021/556 final, May 11, 2022.

[31] Redwood Materials, Inc. 2022. *California Electric Vehicle & Hybrid Battery Recycling Program*. Accessed August 8, 2022. https://www.redwoodmaterials.com/california-recycling-program#.

[32] California Environmental Protection Agency. 2022. Lithium-Ion Car Battery Recycling Advisory Group Final Report. March 16. Accessed June 16, 2022. https://calepa.ca.gov/wp-content/uploads/sites/6/2022/05/2022_AB-2832_LithiumIon-Car-Battery-Recycling-Advisory-Goup-Final-Report.pdf.

be the loss of availability of a known mineral resource that would be of value to a local entity, a region, or the state. As discussed above, facilities developed in response to implementation of the Proposed Program would be located in areas within existing footprints or in areas with consistent zoning where original permitting and analyses considered these issues. Implementation of the Proposed Program and associated compliance responses could result in an increase in mining for lithium and platinum-group metals (PGMs) but would be generally small when viewed in the context of global lithium markets. Thus, implementation of the Proposed Program would not be anticipated to substantially affect the availability related to known mineral resources or supply.

3. Master Response 3: Failure to Consider a Reasonable Range of Alternatives

Comment:
Some commenters claimed that the Draft EA should have considered a particular form of Low-Carbon Fuel Alternative (specifically, one focused on liquid biofuel blends) in addition to the alternatives considered in the Draft EA.

Response:
The Draft EA considered a No-Project Alternative, Less Stringent ZEV Sales Requirement in Earlier Years Alternative, a Less Stringent Overall ZEV Sales Requirement with 70 percent by 2035 Alternative, and a No Low-Emission Vehicle Regulation Updates Alternative on pages 176 through 182. Additionally, on pages 182 through 183, the Draft EA considered a Low-Carbon Fuel Technology in lieu of ZEV Requirements Alternative (Low-Carbon Fuel Alternative), but ultimately rejected this alternative because it would fail to meet most of the basic project objectives, did not avoid a significant environmental impact, and was deemed infeasible.

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 mid-term. CARB staff considered requiring vehicles to be fueled with a minimum percentage of low-carbon fuels rather than requiring ZEV sales from manufacturers. This approach, however, is infeasible given that renewable gasoline as a liquid drop-in fuel has not been commercialized at scale. Fuel providers are instead focusing on commercializing renewable diesel.[33,34,35] The low-carbon liquid fuel pathway would also require a significant amount of

[33] Marathon Petroleum. 2021. Marathon Petroleum to Proceed with Conversion of Martinez Refinery to Renewable Fuels Facility. March 2. Accessed March 11, 2022. https://www.marathonpetroleum.com/Newsroom/CompanyNews/Marathon-Petroleum-to-Proceed-with-Conversion-of-Martinez-Refinery-to-Renewable-Fuels-Facility/.
[34] Fallas, Bernardo. 2021. Rodeo Renewed: 'Right project at the right time'. November 11. Accessed March 11, 2022. https://www.phillips66.com/newsroom/rodeo-renewed-right-project-at-the-right-time.
[35] World Energy. 2022. *Newsroom: World Energy Secures Permits to Greatly Expand SAF Production in Southern California.* April 24. Accessed August 8, 2022. https://www.worldenergy.net/newsroom/world-energy-secures-permits-to-greatly-expand-saf-production-in-southern-c/.

biomass for the volume of renewable liquid fuels (renewable gasoline and ethanol) needed for the California light-duty vehicle fleet.[36,37] Availability of biomass feedstock supplies, including waste-based biomass feedstocks that provide the lowest carbon intensity, are limited and will need to be focused on other mobile sectors that are harder to electrify in order for jurisdictions, including California, to achieve carbon neutrality by 2045.[38,39,40,41,42]

Additionally, as explained in the Draft EA on page 183, while low-carbon fuels may reduce GHG emissions, this approach fails to meet most of the basic project objectives. Most importantly, low-carbon liquid fuel technologies produce higher criteria emissions relative to zero-emission vehicles,[43] which drastically increases the risk that the State is unable to meet ambient air quality standards. Burning renewable gasoline and/or ethanol would most likely produce about the same amount of NOx as current internal combustion vehicles. The transition to ZEVs moves away from both criteria emissions and dependence on petroleum as an energy resource in blended fuels, which will also reduce the demand for finished gasoline and for petroleum refining in California.

Lastly, this alternative does not accelerate the deployment of vehicles that achieve the maximum emissions reductions possible and fails to lead the transition to ZEVs as called for in the Governor's Executive Order. Considering the infeasibility of this approach and its

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[36] Baseline gasoline fuel projections from CARB staff analysis, without the Proposed Program, shows an on-road passenger vehicle fleet fuel consumption of over 10 billion gallons of liquid fuels each year from 2026 to 2050. On a cumulative basis, this results in ~270 billion gallons of liquid fuel. This liquid fuel demand is an order of magnitude higher than the current biofuel usage in California (ethanol blended into gasoline).

[37] U.S. Energy Information Administration. 2022. Monthly Biofuels Capacity and Feedstocks Update. April. Accessed July 12, 2022. https://www.eia.gov/biofuels/update/table1.pdf.

[38] International Energy Agency. 2020. Energy Technology Perspectives 2020. 1-400. September 2020. Accessed July 8, 2022. https://iea.blob.core.windows.net/assets/7f8aed40-89af-4348-be19-c8a67df0b9ea/Energy_Technology_Perspectives_2020_PDF.pdf.

[39] International Energy Agency. 2021. Net Zero by 2050: A Roadmap for the Global Energy Sector. 1-224. May 18. Accessed July 8, 2022. https://iea.blob.core.windows.net/assets/deebef5d-0c34-4539-9d0c10b13d840027/NetZeroby2050-ARoadmapfortheGlobalEnergySector_CORR.pdf.

[40] Searle, Stephanie, Georg Bieker, and Chelsea Baldino. 2021. Decarbonizing Road Transport By 2050: Zero-Emission Pathways for Passenger Vehicles. 1-14. July 20. Accessed July 8, 2022. https://theicct.org/wp-content/uploads/2021/12/zevtc-decarbonizing-by-2050-Jul2021%E2%80%AF.pdf.

[41] United States Department of Energy. 2016. 2016 Billion-Ton Report: Advancing Domestic Resources for a Thriving Bioeconomy, Volume 1: Economic Availability of Feedstocks. M. H. Langholtz, B. J. Stokes, and L. M. Eaton (Leads), ORNL/TM-2016/160. Oak Ridge National Laboratory, Oak Ridge, TN. 448p. doi:10.2172/1271651. Accessed July 8, 2022. https://www.energy.gov/sites/default/ files/2016/12/f34/ 2016_billion_ton_report_ 12.2.16_0.pdf.

[42] Chen, Min, Paul Smith, and Michael Wolcott. 2016. U.S. Biofuels Industry: A Critical Review of Opportunities and Challenges. BioProducts Business. Volume 1, Number 4. 42-59. July 6, 2016. Accessed July 8, 2022. https://biobus.swst.org/index.php/bpbj/article/view/18/6.

[43] Independent research cited in the POET comment letter showed that high blend ethanol fuels would have negligible reductions in NOx emissions, the criteria emission with a large influence on low level ozone formation in California air districts. POET 2022. POET. 2022. "RE: POET COMMENTS ON APRIL 12, 2022 CARB PROPOSED ACC II." May 31, 2022.

failure to meet project objectives, CARB staff did not pursue further evaluation of this alternative.

As required by section 60004.2 of CARB's Certified Regulatory Program, the Environmental Impact Analysis is consistent with Section 15126.6 (c) of the CEQA Guidelines and addresses the selection of a range of reasonable alternatives:

> "The range of potential alternatives to a proposed project shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects. The EIR should briefly describe the rationale for selecting the alternatives to be discussed. The EIR should also identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process and briefly explain the reasons underlying the lead agency's determination. Additional information explaining the choice of alternatives may be included in the administrative record. Among the factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (i) failure to meet most of the basic project objectives, (ii) infeasibility, or (iii) inability to avoid significant environmental impacts."

These guidelines were followed and complied with in Chapter 7 of the Draft EA, which addresses four alternatives.

4. Master Response 4: Lifecycle Emissions Modeling

Comment:
Some commenters ascertain that "CARB's analysis arbitrarily overlooks the lifecycle impacts associated with electric vehicles." In addition, "CARB cannot arbitrarily overlook lifecycle emissions impacts from ZEV while also overlooking opportunities for emission reductions involving ICEV fuels." Lastly, "Accounting for life cycle emissions and short-term emissions reductions 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."

Response:
CARB conducted extensive emissions analysis on its Proposed Program, including vehicle on-road and upstream, or well-to-tank (WTT) emissions. That analysis showed that the Proposed Program reduces GHG emissions 52% in 2040 from the business-as-usual case (BAU).

The emission benefits of the proposed ACC II regulations were estimated using CARB's latest version of its on-road vehicle emission inventory tool EMFAC2021 and CARB's Vision model, which can be used to quantify upstream emissions from the transportation fuel and electric power industries. EMFAC2021 reflects California-specific driving and environmental conditions, passenger vehicle fleet mix, and most importantly the impact of California's unique mobile source regulations. These include all currently adopted regulations such as the Low-Emission Vehicle (LEV), LEV II and LEV III programs, the existing ZEV regulation, and California inspection and maintenance programs. The EMFAC2021 model is based on

CARB's Advanced Clean Cars (ACC) regulations but also considers updated California Department of Motor Vehicles data through calendar year 2019 and improved projections of ZEV sales to forecast future ZEV populations, which show overcompliance with the current ZEV requirements in the existing ACC regulations. The default number of ZEVs in the EMFAC2021 fleet was also adjusted to account for recent changes to the U.S. EPA vehicle standards up to model year 2026. To assess the impact of the Proposed Program, the EMFAC2021 model was run with customized "annual average" settings to estimate statewide light-duty vehicle emissions by calendar year, vehicle category, fuel type, and model year projected to occur for the years of 2026 through 2050. This is described in further detail in Appendix D of the ISOR.

The combined emission benefits as discussed in the air quality and greenhouse gas emissions sections of the Draft EA are associated with upstream fuel production and vehicle emissions (i.e., full well-to-wheel emission quantification). Given the potentially large impacts of this specific program upon transportation fuels because of its scope and ambition, an upstream fuels analysis was deemed appropriate. However, a complete policy portfolio beyond the Proposed Program of both technology and upstream regulations will affect the ultimate outcome, and CARB's analysis reflects one reasonable scenario. Separate policy, regulatory, or industry actions, such as changing import/export balance decisions at refineries, could cause different results. The upstream, or well-to-tank (WTT), emissions, were quantified via the same approach used in the 2020 Mobile Source Strategy[44] with updated assumptions for fuel and energy supply. Well-to-tank emissions include sources from fuel production facilities such as electricity power plants, hydrogen, biofuel production, and gasoline refineries, in addition to fuel feedstock collection (e.g., crude oil extraction from in-state wells) and finished fuel product transportation and distribution. The WTT emission factors capture criteria emissions emitted in California and GHG emissions within the scope of AB 32. Well-to-tank emission factors for gasoline, diesel, and hydrogen fuels were developed based on California-specific data, including Low Carbon Fuel Standard (LCFS) data, CEIDARS/CEPAM and CA-GREET, while considering LCFS compliance scenarios and SB 1505.[45] Electricity emission factors reflect compliance with SB 100 Renewable Portfolio Standard targets. This is described in further detail in Appendix D of the ISOR.

The Draft EA also discussed the different sources of GHG emissions associated with different vehicle technologies. In the case of battery and electrified vehicle technology material requirements and manufacturing, the transportation of lithium, nickel, cobalt, and platinum domestically and worldwide would generate GHG emissions from vehicle and vessel movement that ship and distribute resources to global manufacturing facilities. Additionally, the mining of these resources would require the use of heavy equipment, which would likely be powered by diesel fuel, the combustion of which would produce GHG emissions. However, the emission benefits from the use of these materials in BEVs would ultimately

[44] CARB 2021a. California Air Resources Board. 2021. "2020 Mobile Source Strategy." Released September 28, 2021. Accessed January 31, 2022. https://ww2.arb.ca.gov/sites/default/files/2021-09/Proposed_2020_Mobile_Source_Strategy.pdf.
[45] Stats. 2006, ch. 555.

offset the emissions from combustion of gasoline, diesel, and other fossil fuels from the development and use of these battery materials resources (see page 103-107 of the Draft EA.) Additionally, the development and transport of materials and fuels for conventional vehicles would need to be considered with an evaluation of the net GHG emissions when a conventional vehicle is not manufactured and used.

Some commenters suggest the Proposed Program should specifically analyze the lifecycle emissions for low carbon fuels as an alternative. As discussed above in Master Response 3, CARB analyzed low-carbon fuel technology in lieu of ZEVs as an alternative in the Draft EA. These lower-carbon alternative fuels coupled with improved internal combustion engine technologies may be able to reduce GHG emissions in the near to mid-term. However, this approach would not meet basic project objectives and would be infeasible. First, low-carbon fuel technology fails to reduce criteria emissions needed to meet ambient air quality standards. Second, adopting a new GHG performance regulation that credits the full lifecycle of renewable fuels would require tracking of individual driver fueling events by manufacturers for the millions of vehicles in the light-duty fleet. This could result in a program that is not verifiable or enforceable. Considering the infeasibility of this approach and its failure to meet project objectives, CARB staff did not pursue further evaluation of this alternative.

Numerous studies have shown the lifecycle GHG reduction potential of the vehicles included in the Proposed Program, where lifecycle emissions include well-to-wheel operations but also vehicle manufacturing and disposal. The use of different parts, materials, and processes to build components unique to electric vehicles, especially the type and size of batteries, means that emissions from building an electric vehicle differ from those of building comparable gasoline vehicles. With gasoline cars, vehicle operation accounts for most of the lifetime emissions, while for BEVs, emissions from manufacturing are a more significant contributor to the total lifecycle emissions. Despite higher emissions from vehicle manufacturing, BEVs on average have much lower lifecycle GHG emissions than comparable gasoline vehicles, as manufacturing emissions are quickly offset by reduced emissions from operation.[46] A Life Cycle Analysis Report from SwRI (Project No. 26587), shows that sedan, crossover, and pickup BEVs on a 2019 California grid (using EIA database GHG intensity data), as well as solar-generated hydrogen with a FCEV, have lower carbon lifecycle emissions than virtually any other fuel (including low-carbon fuel) and technology combination, and have comparable emissions to lowest-emitting petroleum fuels.[47] As the carbon intensity of the California grid continues to decline per the 100 Percent Clean Energy Act of 2018,[48] BEV lifecycle GHG intensities will continue to fall. Similarly, the Department of Energy's cradle-to-grave lifecycle

[46] Nealer, Rachael, David Reichmuth, and Don Anair. 2015. Cleaner Cars from Cradle to Grave: How Electric Cars Beat Gasoline Cars on Lifetime Global Warming Emissions. Union of Concerned Scientists. November. Accessed July 8, 2022. https://www.ucsusa.org/sites/default/files/attach/2015/11/Cleaner-Cars-from-Cradleto-Grave-full-report.pdf.

[47] The SwRI report was submitted by Elizabeth Bourbon representing Valero (public comment letter OP-141), which can be found on the online Board Meeting Comments Log https://www.arb.ca.gov/lispub/comm/iframe_bccommlog.php?listname=accii2022&_ga=2.146673396.1346155275.1657904003-1805581018.1619638948.

[48] Senate Bill 100, Stats. 2018, ch. 312.

GHG emission analysis for small sport utility vehicles found that future BEVs and FCEVs would have lower lifecycle emissions than even the lowest carbon intensity drop-in renewable fuel, while current BEVs, FCEVs, and PHEVs have lower lifecycle emissions than any ICEV or hybrid gasoline vehicle.[49] Furthermore, the ZEV Transition Council found that for medium-size passenger cars registered in 2030, ZEVs and PHEVs have significantly better lifecycle GHG performance than a conventional vehicle (on both an estimated average global grid and one powered solely by renewable electricity).[50] These studies indicate that for light-duty vehicles, as regulated by the Proposed Program, lifecycle GHG emissions are lower than for similar class ICEVs.

Besides the carbon emissions, zero-emission vehicles do not emit exhaust criteria and toxic pollutants when operated and do not have upstream emissions of these pollutants from production and delivery of petroleum fuels. The lifecycle emissions of all pollutants are lower for zero-emission vehicles than vehicles powered by combustion, thus meeting to a greater extent the objectives of the proposed regulations than any other alternative and at a comparable or lower cost.

To the extent these comments address economic or other non-environmental impacts, such impacts are beyond the scope of the Draft EA. Those comments will be addressed in the Final Statement of Reasons.

[49] Elgowainy, Amgad, Jarod Kelly, Michael Wang. 2020. "Life Cycle Greenhouse Gas Emissions for Small Sport Utility Vehicles." U.S. Department of Energy Record #21003. November 1. Accessed June 7, 2022. https://www.hydrogen.energy.gov/pdfs/21003-life-cycle-ghg-emissions-small-suvs.pdf.
[50] Searle et al. 2021.

B. Individual Comments and Responses on the Draft Environmental Analysis

Comment Letter OP-4
4/18/2022 Eric Shoquist

OP-4-1: The commenter states "While I think the goal of ACC II is worthy, mandating something like this without making sure that everything needed for it is in place, or already on the way is folly - and that is what ACC II currently is folly. To pick a number out of thin air - proabably based on ramping up to another date picked out of thin air (governors 2035 zero ICE goal) just doesn't make sense. Where is the infrastructure to support this? I have had a Chevy Volt, Kia Niro (plugin hybrid), as well as a Chevy Bolt and from experience prefer the plugin hybrids because of the difficulty of finding an affordable place to charge. It's ridiculous currently to find a charging station (that will connect to the car), and know the price you'll pay. It's definitely not like going to a gas station where you see the prices advertised. On many I see no list of costs and even in their apps you have to search for it. Then on top of that some places have minimum charges, or additional fees that they tack on to it. Its ridiculous! Of course most people will charge at home I agree. Lets talk about that. As recently as the winter of 2020-2021 in my area we had 3 major outages due to risk of fire. Two of these came without warning. Now while I already had solar on my house because SDG&E shut down power it didn't do me any good in running my house or charging my car. No I would have to shell out a lot of money to have my own battery bank to be able to sustain my car during this time. The power grid is too dependant on external power and thus will be at risk to shut down due to weather events in the foreseeable future. Getting rid of things like San Onofre had a major cost and we are and will be paying for it for as long as I can see. In addition the EV market is, and will continue to be dominated by buyers in the top 20% of incomes in the state. I don't know anyone in what I would call middle to lower income buying these vehicles - because even with rebates they can't afford it! So as far as I'm concerned currently all the EV incentives are just additional perks for the rich only.

So unless you revamp our power grid (which won't happen in 4 yrs!), you put the infrastructure in to support all these new EVs (which I'm not seeing any real movement on by the state to this point), and find a way to make it possible for everyone to buy EVs - your mandating a certain percentage of EVs will be just like when I believe you previously mandated a 15% EV rate by 2018, which of course was a similar pipe dream. I agree EVs are coming - the problem is setting arbitrary goals that are not supported by the infrastructure and ability of all to participate in the EV market.

I am against this arbitrary goal of 35% and think you should get the infrastructure ready before making such a goal, and provide a meaningful way for all to participate prior to any future goals like this."(sic)

Response: Please refer to Master Response 1.

The remainder of the comments submitted relate to aspects outside the scope of the Draft EA, therefore no response is required. However, these comments are acknowledged for the record and have been considered by CARB prior to final consideration.

Comment Letter OP-8

4/26/2022 Ronald Stein
PTS Advance

OP-8-1: The commenter states "The useful life of those large EV batteries is limited, generally from 15 to 20 years, but none of the recycling plans are public.

With no plan currently in place to recycle lithium products when they reach their end, the world could literally run out of these exotic minerals in a few short years.

An estimated 11 million tons of spent lithium-ion batteries will flood our markets by 2025, without systems in place to handle them.

When and how will the recycling and disposal of spent EV batteries be addressed by the automobile manufacturers, and made public?"

Response: Please refer to Master Response 2.

The remainder of the comments submitted relate to aspects outside the scope of the Draft EA, therefore no response is required. However, these comments are acknowledged for the record and have been considered by CARB prior to final consideration.

Comment Letter OP-16

5/11/2022 Robert Beerman

OP-16-1: The commenter states "The California Smog Program, since its inception, has made remarkable strides in cleaning up vehicle emissions to almost zero. Electric Vehicles are a great idea but the technology to have them replace fossil fuel burning vehicles is far into the future. To try to make Electric Vehicles the only option before that technology is perfected will lead to pollution problems when these batteries are no longer useful. At this time, we have to rely on other states to sell us electricity. We are in a drought so we can't rely on Hydro/Electric power. Solar power will never produce enough electricity to fulfill California's needs. The only solution to our energy problem, at this time, is to use Natural Gas and Nuclear power. They are both, good, cheap and clean sources of electric power."

Response: The comment does not address the adequacy of the Draft EA. The comments suggestion that the state invest in nuclear and natural gas as alternatives to meet the state's electricity demand is beyond the scope of the Proposed Program.

Please also refer to Master Response 1.

The remainder of the comments submitted relate to aspects outside the scope of the Draft EA, therefore no response is required. However, these comments are acknowledged for the record and have been considered by CARB prior to final consideration.

Comment Letter OP-20
5/23/2022 Dalton Kraus

OP-20-1: The commenter states "I'm very much against banning new gas cars by 2035 or later. I might purchase a new Ev in the next couple years, but I want my options.

If the state wants to promote EV ownership, please reduce the sales tax and registration fees on new EVs. An EV can cost $ 15-20 K more than a similar gas powered vehicle, and the added cost of taxes and registration makes the EV a bad choice for middle income residents."

Response: CARB acknowledges comments related to the economic impact the Proposed Program would have on automobile owners. The Draft EA is not meant to address economic, social, or financial issues associated with the Proposed Program. Rather, the purpose of CEQA and the Draft EA is to fully analyze and mitigate the Proposed Program's potentially significant physical impacts on the environment. As such, comments related to economic or financial concerns are outside of the scope of the Draft EA.

Please also refer to Master Response 1.

The remainder of the comments submitted relate to aspects outside the scope of the Draft EA, therefore no response is required. However, these comments are acknowledged for the record and have been considered by CARB prior to final consideration.

Comment Letter OP-22
5/23/2022 Susan Dwyer

OP-22-1: The commenter states "Thank you for your hard work toward having clean air for California. However, forcing electric cars on the population is full of disastrous consequences. Starting with the strain on the electric grid adding that many charging demands. The state is already experiencing serious energy problems with rolling blackouts every summer. Also the environmental costs of no biodegradable batteries will be staggering. I believe your heart is in the right place but until these two environmental issues are resolved it is foolish to push this agenda forward. My My husband and I are also retired living on a fixed income and can not afford things as they are now including energy bills and inflation. We could never afford the price of an electric electric car or the accompanying costs to maintain one. This plan is seriously flawed. Do not move forward with it until this issues have been fixed." (sic)

Response: Please refer to Master Response 1 in response to the first portion of this comment.

The Draft EA addresses the environmental costs of the mining of the semi-precious metals used in EV batteries throughout Chapter 4. The Draft EA discloses those potentially adverse impacts throughout Chapter 4 and identifies potentially significant impacts to aesthetics, biological resources, hydrology, hazards, noise, agriculture and forestry resources, and cultural and tribal resources. Additionally, the Draft EA also addresses the potentially adverse environmental hazards of disposal of lithium-ion and nickel-hydride batteries, as well as hydrogen fuel cells throughout Chapter 4. However, of note, the Proposed Program includes provisions that would result in longer-lasting ZEVs, such as minimum requirements for range and durability, that could help reduce disposal impacts from ZEVs when compared to ICEVs. Additionally, the Draft EA notes the important activities occurring with automotive lithium-ion battery recycling.

Also, as stated on page 61 of the Draft EA, disposal of any portion of vehicles, including portions of lithium-ion batteries that could not be repurposed, would be subject to and must comply with existing laws and regulations governing solid and hazardous waste, such as California's Hazardous Waste Control laws (Health and Safety Code, Division 20, Chapter 6.5; 22 CCR, Division 4.5), and implementing regulations, such as California's Universal Waste Rule (22 CCR Division 4.5, Chapter 23). Disposal of used batteries into solid waste landfills is prohibited; however, they could be refurbished, reused, or disposed of as hazardous waste. For lithium-ion batteries, it is anticipated they still have a useful life at the end of vehicle life and are likely to be repurposed for a second life. To meet an increased demand of refurbishing, reusing, and recycling of batteries and fuel cells, new facilities may be constructed or modifications to existing facilities may occur. The impacts of these new facilities are disclosed throughout Chapter 4 of the Draft EA.

No edits to the Draft EA are necessary in response to this comment. No further response is required.

The remainder of the comments submitted relate to aspects outside the scope of the Draft EA, therefore no response is required. However, these comments are acknowledged for the record and have been considered by CARB prior to final consideration.

Comment Letter OP-25
5/24/2022 Cindy Knight

OP-25-1: The commenter states "Where are we going to get the electricty from? We use gas to make electricy. How is that helping the planet? The mining for the battries uses child labor and dectroys the land that it is mined from." (sic)

Response: In 2020, according to CEC, 37 percent of the state's electricity was sourced from natural gas combustion. Also in 2020, 33 percent of the state's electricity was sourced from eligible renewable energy (i.e., not including large hydroelectric power, which accounted for 12 percent of total electricity). The commenter is correct that, at the time of writing this response to comments document, the state is sourced by electricity generated by natural gas. However, as summarized on page 81 of the Draft EA, California's Renewable Portfolio Standard (RPS), which was established by legislation enacted in 2002 and its most recent targets were set by Senate Bill (SB) 100, requires that California's load-serving entities to procure 60 percent of their retail electricity from eligible renewable sources by 2030. The RPS also established interim targets for utilities as shown below.

- 33 percent of retail sales by December 31, 2020;
- 44 percent of retail sales by December 31, 2024;
- 52 percent of retail sales by December 31, 2027; and
- 60 percent of retail sales by December 31, 2030.

As the Proposed Program is implemented over its lifetime (2026–2040), the electrical grid in the state will continue to become increasingly more renewable as the benchmark targets of the RPS are met by local utilities. Therefore, emissions associated with EVs will progressively decrease into the future as electricity supplied by nonrenewable sources decreases.

The commenter also expresses concerns over adverse environmental consequences from the mining activities. The Draft EA discloses those potentially adverse impacts throughout Chapter 4 and identifies potentially significant impacts to aesthetics, biological resources, hydrology, hazards, noise, agriculture and forestry resources, and cultural and tribal resources.

This comment also relates to the social impact of the Proposed Program regarding child labor. The Draft EA is not meant to address economic, social, or financial issues associated with the Proposed Program. Rather, the purpose of CEQA and the Draft EA is to fully analyze and mitigate the Proposed Program's potentially significant physical impacts on the environment. As such, comments related to social concerns are outside of the scope of the Draft EA and not addressed in this response to comments document. Additionally, any potential dubious practices that may result in adverse social outcomes in countries outside of the U.S. are outside of CARB's capacity to regulate.

No edits to the Draft EA are required in response to this comment. No further response is required.

The remainder of the comments submitted relate to aspects outside the scope of the Draft EA, therefore no response is required. However, these comments are acknowledged for the record and have been considered by CARB prior to final consideration.

Comment Letter OP-29

5/25/2022 Santokh Sohal

Comment Letter OP-29: The commenter states "Worsening our electric grid reliability by pushing electrification without infrastructure in place, thus increasing the likelihood power outages".

Response: Please refer to Master Response 1.

The remainder of the comments submitted relate to aspects outside the scope of the Draft EA, therefore no response is required. However, these comments are acknowledged for the record and have been considered by CARB prior to final consideration.

Comment Letter OP-30
5/25/2022 Henry Marvin

OP-30-1: The commenter states "We already have rolling blackouts, how is our electrical grid going to handle all cars to be plugged in?

What happens when you are in the freeway and an accident happens in the winter, you are stuck on the freeway and your electricity has run out?

Do I want to be driving and stop in a dangerous area to sit and recharge my car at night?

I feel we should allow vehicles that have gas and electric to power them. It keeps from these problems that California does not have an answer for."

Response: The Proposed Program does allow PHEVs, which have both gas and electric power. This comment also suggests that the use of public charging stations is an unsafe practice; however, compared to the use of gas stations to refuel ICEVs, charging stations are no more or less unsafe. The time needed to charge an EV depends upon the electrical load of the charger and size of the EV battery, and charging time is declining as charger technology advances rapidly. Ultra-fast chargers enabled with the newest EV capability are leading to charging times of 10-20 minutes. The time to refuel an ICEV also varies depending on the size of the gasoline/diesel fuel tank. Furthermore, many charging stations are being co-located at gasoline stations that offer the same safety measures and lighting, as well as convenience store options.[51,52]

Please also refer to Master Response 1.

The remainder of the comments submitted relate to aspects outside the scope of the Draft EA, therefore no response is required. However, these comments are acknowledged for the record and have been considered by CARB prior to final consideration.

[51] EVgo Services LLC. 2019. EVgo and Chevron Bring EV Fast Charging to Select California Gas Stations. May 20. Accessed July 12, 2022. https://www.evgo.com/press-release/evgo-and-chevron-bring-ev-fast-charging-toselect-california-gas-stations/.
[52] bp. 2021. bp takes first major step into electrification in the US by acquiring EV fleet charging provider AMPLY Power. December 7. Accessed July 11, 2022. https://www.bp.com/en/global/corporate/news-and-insights/press-releases/bp-takesfirst-major-step-into-electrification-in-us-by-acquiring-ev-fleet-charging-provideramply-power.html.

Comment Letter OP-32
5/25/2022 Kenneth Post

OP-32-1: The commenter states "We must be careful not to overwhelm our electric system and also overwhelm the electrical charging system that is just starting to grow."

Response: Please refer to Master Response 1.

The remainder of the comments submitted relate to aspects outside the scope of the Draft EA, therefore no response is required. However, these comments are acknowledged for the record and have been considered by CARB prior to final consideration.

Comment Letter OP-33

5/26/2022 Patrick Faubion

OP-33-1: The commenter states "FIRST REGULATION TO ENACT: ENACT NO REGULATION FOR WHICH INFRASTRUCTURE DOES NOT EXIST. FOR EXAMPLE: MANDATING ELECTRIC CARS WHEN THE POWER GRID IS OVERLOADED NOW. IT TAKES ABOUT 10 YEARS TO GET A POWER PLANT BUILT FROM PLANNING, PERMITS TO OPERATION."

Response: Please refer to Master Response 1.

The remainder of the comments submitted relate to aspects outside the scope of the Draft EA, therefore no response is required. However, these comments are acknowledged for the record and have been considered by CARB prior to final consideration.

Comment Letter OP-34
10/5/2021 Bob Wiley

OP-34-1: The commenter states "If we are to go all electric, then where will we get our electricity from?

It is unwise to eliminate energy forms and options. We will need to expand production from our state's power plants and that includes re-opening the nuclear plants that have been sitting dormant for years. If we want enough clean, efficient energy, the wind and solar we currently have is not efficient enough to power thousands/millions of more vehicles.

California has maxed out the power grid. I am against going "all electric" until we can address the power supply issue.

Plus, one other area to consider; what about those who don't have the capability to charge a vehicle? I live in a small house with no garage. The nearest parking for me is 250ft. across a street up a hill. I wouldn't have any option to charge my electric vehicle unless I were to run a long extension cord across two other properties and a city street. That doesn't work for me and I know I'm not the only one in a situation like this."

Response: Please refer to Master Response 1.

The remainder of the comments submitted relate to aspects outside the scope of the Draft EA, therefore no response is required. However, these comments are acknowledged for the record and have been considered by CARB prior to final consideration.

Comment Letter OP-42

5/26/2022 Marcus Gomez
California Hispanic Chamber of Commerce

OP-42-1: The commenter states "My feeling is that the board is putting the cart before the horse. You would like us to be all electric by 2035 2040. My question is where you will get the electicity to power all you ask for. We are asked to save energy now also where will all the gas vehicle go..... I think you need to update the electricle grid before you start asking the public to go all electricle. Please feel free to contact me if you would like to discuss more. Thank You!" (sic)

Response: Please refer to Master Response 1.

The remainder of the comments submitted relate to aspects outside the scope of the Draft EA, therefore no response is required. However, these comments are acknowledged for the record and have been considered by CARB prior to final consideration.

Comment Letter OP-54

5/27/2022 Anthony Bento
California New Car Dealers Association

OP-54-1: The commenter states "***There Is Substantial Uncertainty on Whether Global Production of Lithium and Other Key EV Components Will be Sufficient to Facilitate a 100% Transition to ZEVs by the Mid-2030s.***

The development of battery technology over the past couple decades has been remarkable. Energy density has increased substantially, and costs have greatly decreased. However, current battery technologies (and the technologies likely to be commercially available at scale during the near- and medium- term) are dependent on several key raw materials, most notably lithium.

Unfortunately, there are concerning signs that the current semiconductor-driven shortage of new vehicles may be a prelude to a massive lithium-driven shortage of EVs. Climate change is a global problem, and governments throughout the world (most notably the European Union and China) are aggressively moving towards the electrification of their vehicle fleets. The amount of lithium and other key raw materials necessary to facilitate the global EV transition is extraordinary, and industry leaders and experts are raising concerns that the materials and capacity necessary to produce EV batteries will be in catastrophically short supply in the coming decade.

In an April 2022 interview with the Wall Street Journal, RJ Scaringe (CEO of Rivian, a prominent EV manufacturer) noted that "90% to 95% of the [EV] supply chain does not exist. […] Put very simply, all of the world's cell production combined represents well under 10% of what we will need in 10 years."[17] Mr. Scaringe further noted that the current vehicle supply constraints related to semiconductor shortages are "a small appetizer to what [the industry is] about to feel on battery cells over the next two decades."[18]

As a result of these supply constraints, lithium prices have surged over 400% over the past year.[19] Tesla CEO Elon Musk made a public appeal for more lithium mining in an April 2022 call with investors, noting that the lack of lithium is a "fundamental limiting factor" in EV production.[20]

Unfortunately, many experts are not predicting relief on lithium supplies soon. In a recent interview with Bloomberg, industry export Joe Lowry noted that a major problem is that it "takes up to a decade to bring on a lithium project."[21] This suggests that production may continue to lag demand for considerable time. " (emph. orig., fn. omitted.)

Response: Please refer to Master Response 2.

The remainder of the comments submitted relate to aspects outside the scope of the Draft EA, therefore no response is required. However, these comments are acknowledged for the record and have been considered by CARB prior to final consideration.

Comment Letter OP-62

5/28/2022 Richard Allum

OP-62-1: The commenter states "CA has not shown itself sufficiently adept at creating electricity that doesn't involve rolling black outs and brown outs during peak usage times. Now we can't do laundry from 4-9pm to save electricity, BUT mandating electric cars by 3035 just highlights how out of touch with reality the state govenment is! PLEASE apply some common sense to the literally unobtainable goal of all electric cars by 2035." (sic)

Response: Please refer to Master Response 1.

The remainder of the comments submitted relate to aspects outside the scope of the Draft EA, therefore no response is required. However, these comments are acknowledged for the record and have been considered by CARB prior to final consideration.

Comment Letter OP-91

5/31/2022 Roger Braddy

OP-91-1: The commenter states "it goes without saying we all want cleaner air but the force electric vehicles is not the way to do this. there is only so much lithium to mine from the earth and when thats is gone it is gone. lithium is also needed in medical, glass / ceramics and an array of other feilds. the other problem arrises is when the replacement batteries cost more than a new car. if you own a car with a dead battery, you have no choice but to scrap it do to the cost involved. it should also be noted that mining the materials for these cars will tear the planet up more than drilling a hole for fossil fuels. all though well meaning this plan lacks intellectual foresight and should be abandoned at all costs. thank you" (sic)

Response: Please refer to Master Response 2.

The remainder of the comments submitted relate to aspects outside the scope of the Draft EA, therefore no response is required. However, these comments are acknowledged for the record and have been considered by CARB prior to final consideration.

Comment Letter OP-103

5/31/2022 Brian Mello
Associated General Contractors of California

OP-103-1: The commenter states "**Lack of Reliable Technology.**

While AGC of California supports actions that reduce greenhouse gas emissions making our communities an even safer place to live, we urge CARB to consider the feasibility of the Advanced Clean Cars II regulation. At this moment in time, there is not current technology to reliably initiate this regulation. According to the CalMatter's article, "California's electric grid is not ready to meet climate goals," California's electrical grid was largely developed in the last century and was designed with natural gas fired generation located in urban areas, supplemented by remote hydro, nuclear, and geothermal energy (2022). The electrical grid was not designed to accommodate phasing out urban gas-fired generation and tripling the among of energy delivered from remote wind and solar energy. Additionally, the most recent 10-year plan developed from the Public Utilities Commission does not take shutting down gas power plants into account from now to 2031. This is concerning because rolling blackouts have been increasing over the past couple of years.

On January 13, 2021, the California Independent Systems Operator, California Public Utilities Commission, and California Energy Commission released a report regarding the root-cause analysis of the mid-August extreme heat wave power blackouts. This report states that the root-cause was attributed to "extreme weather conditions, resource adequacy and planning processes, and market practices". Additionally, it states "[t]he energy markets can help fill the gap between planning and real-time conditions, but the West-wide nature of this extreme heat wave limited the energy markets' ability to do so". Therefore, it expresses the need to have carefully thought-out regulations that take California's current resources into consideration, as opposed to initiating a regulation that is not practical.

UC Berkley published the peer-reviewed article, "Inequitable access to distributed energy resources due to grid infrastructure limits in California," where the authors analyzed grid limits to new distributed energy resources integration across California's two largest utility territories (Brockway, Conde, & Callaway, 2021). They found that "grid limits reduce access to solar photovoltaics to less than half of households served by these two utilities, and may hinder California's electric vehicle adoption and residential load electrification goals." This stresses the need to address the limits of the electrical grid prior to implementing a regulation that imposes unrealistic goals. Furthermore, they evaluated the relationship between demographic characteristics and access. They found that the grid limits exacerbate existing inequities, particularly that disadvantaged census block groups have disproportionately less access to new solar photovoltaic capacity based on circuit hosting capacity. Since CARB is an organization that values equity, AGC of California encourages this to be taken under consideration in the development of this regulation.

All in all, AGC of California urges CARB to consider upgrading the electrical grid so that energy can reliably get to consumers that would make this regulation obtainable.

Additionally, to consider equity needs in the design of the Advanced Clean Cars II regulation for prioritizing grid upgrades." (emph. orig,)

Response: The Proposed Program acknowledges inequity in the state and considered equity through improving access to clean transportation and mobility options for low-income households and communities most impacted by pollution, supports equity and environmental justice, and is key in achieving emission reductions. The Proposed Program helps reduce exposure to criteria pollution and toxic air contaminants in burdened communities and implements part of CARB's statewide strategy to address emission reduction goals in the Community Air Protection Program Blueprint. The significant pollution reductions from the Proposed Program as a whole, when accounting for cleaner ICEVs as well as ZEVs, would reduce exposure to vehicle pollution in communities throughout California, including in low-income and disadvantaged communities that are often disproportionately exposed to vehicular pollution. Further, the proposed ZEV assurance measures, discussed in Chapter III.D of the ISOR, would ensure these emissions benefits are realized and long-lasting, while supporting more reliable ZEVs in the used vehicle market, where the cost of ZEVs become more affordable to lower-income households. Staff have also proposed provisions, discussed in Chapter IX of the ISOR and at pages 7-8 of the public notice for the 15-Day changes, to encourage manufacturers to take actions that improve access to ZEVs for disadvantaged, low-income, and other frontline communities, including by investing in community car share programs, producing affordable ZEVs, and keeping used vehicles in California to support CARB's complementary equity incentive programs.

Please also refer to Master Response 1.

Portions of this comment relate to the social impact of the Proposed Program. The Draft EA is not meant to address economic, social, or financial issues associated with the Proposed Program. Rather, the purpose of CEQA and the Draft EA is to fully analyze and mitigate the Proposed Program's potentially significant physical impacts on the environment. As such, comments related to social concerns are outside of the scope of the Draft EA and not addressed in this response to comments document.

The remainder of the comments submitted relate to aspects outside the scope of the Draft EA, therefore no response is required. However, these comments are acknowledged for the record and have been considered by CARB prior to final consideration.

Comment Letter OP-114

5/31/2022 Robert O'Koniewski
Massachusetts State Automobile Dealers Association

OP-114-1: The commenter states "**Increased Electricity Generation.** Much of our state's commitment in its clean energy and climate plan, including the movement to 100% ZEV sales, depends on transitioning away from electricity generation via fossil fuel and nuclear means. The 2050 generation goals in the plan are laudable; however, Americans depend on a reliable, affordable electricity supply at home and work. We in the Commonwealth need our heat in the Winter and our AC in the Summer. It is reasonable to ask where our needed electricity is going to come from as current generation plants, reliably fueled by gas, coal, and nuclear, are mothballed. Can utilities and government guarantee that all residential, commercial, and industrial electric needs will be met affordably in a move to a total renewable-powered grid? Recent events in a number of states, including California, demonstrated the need for grid reliability, especially when certain electricity generation types cannot operate. Further, on-going NIMBY movements in Massachusetts and our New England neighbors have obstructed the ability to construct power lines coming into our state from Hydro Quebec and extended the fight for the wind farms off of Cape Cod into its third decade. Governments across the country, including Massachusetts, have set renewables standards for utilities' portfolios that are heavily subsidized by taxpayer dollars as well as by ratepayers. These portfolio standards are useless if we ultimately cannot deliver the power from these sources to electricity customers." (emph. orig.)

Response: CARB is not an entity that has authority to regulate, invest, create policies, or address the reliability of electricity in another state within the United States (U.S.) or abroad. CARB cannot account for, or vouch for, the reliability of the state of Massachusetts' electrical grid. The Proposed Program proposes regulatory standards to increase the operation and adoption of ZEVs in California. As noted in the EA, other states may adopt California's standards relating to control of engine and motor vehicle emissions under Section 177 of the Clean Air Act, 42 U.S.C. § 7507. It is not known with certainty which states will adopt California standards relating to the control of emissions or related requirements, or whether they will make modifications or amendments to the related requirements that are not required by Section 177 to be identical to California's, that would expand the ZEV market and impact similar resources as analyzed by this EA. The authority to determine and adopt regulations rests with each individual state, and the adoption of the Proposed Program by other states is not part of the Proposed Program being presented to the Board for adoption. The Proposed Program does not adopt standards for Massachusetts, and CEQA does not require speculation on the many factors that may affect impacts of regulations potentially adopted by other states. This comment does not address the accuracy of the Draft EA. No edits to the Draft EA are required in response to this comment. No further response is required.

Please also refer to Master Response 1.

OP-114-2: The commenter states "**Are ZEVs Really Better for the Environment?** No one argues the benefit of cleaner air. But at what cost? The landscapes of a number of countries are being strip mined and deforested in the rush to obtain the minerals necessary to develop and build today's batteries. Our ocean bottoms do not seem to be immune from consideration for destruction in the rush for minerals. If nations and mining companies degrade our natural lands and beauty in the race for mineral conquests, thereby leading to erosion, groundwater contamination, and irreparable harm to our land and ocean ecosystems, is the total commitment to ZEVs then worth it? Clearly a reasonable balance must be sought to make sure we are not trading one source of pollution and environmental degradation for another. Further, national security concerns could be raised if the world's bad actors substantially possess and control the mineral components of vehicle batteries and battery manufacturing processes." (emph. orig.)

Response: The Draft EA addresses the environmental costs of mining of the semi-precious metals used in EV batteries throughout Chapter 4. The Draft EA discloses those potentially adverse impacts throughout Chapter 4 and identifies potentially significant impacts to aesthetics, biological resources, hydrology, hazards, noise, agriculture and forestry resources, and cultural and tribal resources.

The commenter suggests that increases in mining activities would be so great that the air pollution and greenhouse gas (GHG) benefits of the Proposed Program would be offset. CARB disagrees for three primary reasons. First, ICEVs also require aluminum alloys, magnesium, iron, and steel, which are all metals that already require extensive mining with similar physical impacts to the environment that were identified in Chapter 4 of the Draft EA, including loss of habitat, agricultural resources, and forests; water, air, and noise pollution; and erosion. Second, increased reliance on ZEVs would reduce demand for diesel and gasoline used by ICEVs, which requires large efforts to extract, refine, and distribute with the potential to cause catastrophic environmental disasters, such as the Exxon Valdez oil spill in 1989 and the Deepwater Horizon oil spill in 2010, both causing devastating impacts to aquatic and terrestrial ecosystems, severe water pollution, and acute and chronic health impacts to nearby communities. Third, a primary objective of the Proposed Program is to reduce the state's GHG emissions to avert catastrophic anthropogenic climate change, which has the potential to cause adverse environmental impacts directly and indirectly such as loss of ecosystems from increased wildfire intensity and occurrence, saltwater intrusion, and floods, among others. Higher temperatures lead to the increased formation of ground-level ozone causing higher rates of acute and chronic illness related to exposure to air pollution.

For these reasons, CARB does not agree with the commenter's assertion that use of ZEVs and potentially more mining activity for semi-precious metals outweighs the benefits of the Proposed Program. No edits to the Draft EA are required in response to this comment. No further response is required.

Please also refer to Master Response 2.

The remainder of the comments submitted relate to aspects outside the scope of the Draft EA, therefore no response is required. However, these comments are acknowledged for the record and have been considered by CARB prior to final consideration.

Comment Letter OP-117

5/31/2022 Laurel Moorhead
Transfer Flow, Inc.

OP-117-1: The commenter states "Pacific Gas and Electric's (PG&E) consistent lack of regular maintenance of their equipment has been shown to have caused several of California's wildfires in recent years. In 2019 PG&E pled guilty to 84 counts of involuntary manslaughter for causing the 2018 Camp Fire that decimated Paradise, California. PG&E was also responsible for the Dixie Fire. Asking Californians to be dependent on an energy source that has proven itself unreliable is unfair to the citizens affected by these wildfires. How are everyday citizens supposed to charge their EVs when the power lines are down due to wildfires that the same utility has caused by neglect of their equipment?"

Response: Please refer to Master Response 1.

The remainder of the comments submitted relate to aspects outside the scope of the Draft EA, therefore no response is required. However, these comments are acknowledged for the record and have been considered by CARB prior to final consideration.

Comment Letter OP-119

5/31/2022 Robert Lapsley
California Business Roundtable

OP-119-1: The commenter states "Lastly, the mandate for electric-only vehicles will further increase the state's reliance on foreign countries and a destabilized supply chain structure. The shift to ZEVs not only eliminates a domestic jobs base, it substantially increases dependence on minerals mostly produced in other countries, not only those needed for ZEV batteries but as well for expansion of generation, transmission, and charging capacity to keep them running. As recently acknowledged by President Biden, "*China controls most of the global market of these minerals, and the fact is that we can't build a future that's made in America if we ourselves are dependent on China for the materials, the power, the products.*" (emph. orig.)

Response: While ZEVs purchased under the Proposed Program could be sourced from companies with oversees manufacturing plants, numerous car manufacturers that employ American workers are producing EVs in 2022. This includes U.S. based companies such as General Motors, Ford and Stellantis, but also VW, Hyundai and others. The transition to ZEVs from the Proposed Program would not alter existing markets compared to baseline conditions because the manufacture of ICEVs is already based on a complex, international market with both domestic and foreign options available to the consumer. The comment does not address the adequacy of the Draft EA. No edits to the Draft EA are required in response to this comment. No further response is required.

Please also refer to Master Response 1.

OP-119-2: The commenter states "These risks are all exacerbated by the fact that both the mining and processing of materials essential to the fulfillment of the proposed regulation are concentrated to an extraordinary degree in only a few nations, including copper, class 1 nickel, lithium, cobalt, graphite, rare earth elements, and others. This situation is in sharp contrast to the current environment, in which fuels for the state's overall transportation fleet considered as a whole are far more diversified and to a far greater extent are produced from more stable and more reliant domestic sources."

Response: Please refer to Master Response 2.

The remainder of the comments submitted relate to aspects outside the scope of the Draft EA, therefore no response is required. However, these comments are acknowledged for the record and have been considered by CARB prior to final consideration.

Comment Letter OP-121

5/31/2022 Jennifer Hernandez
The 200

OP-121-1: The commenter states "CARB is required to consider emissions reduction strategies that will "achieve the maximum technologically feasible and cost-effective reductions in greenhouse gas emissions in furtherance of achieving the statewide greenhouse gas emissions limit."[22] Similarly, for all rulemakings, CARB is required to consider a reasonable range of alternatives, including "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."[23] California Environmental Quality Act (CEQA) Guidelines also specify that CARB must consider a reasonable range of alternatives, which "shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects."[24] CARB is further required under AB 32 to "evaluate the total potential costs and total potential economic and noneconomic benefits of the plan for reducing greenhouse gases to California's economy, environment, and public health" and "update its plan for achieving the maximum technologically feasible and cost-effective reductions of greenhouse gas emissions".[25] Rather than living up to these statutory mandates, the ACC II program allows millions of dollars in legacy technology and infrastructure to go to waste while seeking to eliminate affordable alternatives that offer substantial opportunities for more cost-effective GHG emission reductions that work in the current vehicle fleet." (fn. omitted.)

Response: Please refer to Master Response 3.

The remainder of this comment relates to aspects outside the scope of the Draft EA, therefore no response is required. However, this comment is acknowledged for the record and has been considered by CARB prior to final consideration.

OP-121-2: The commenter states "*Third*, electrical grid reliability issues are on-going in California. The state faces an increased risk of outages this summer from extreme heat, wildfires and drought. With increasing reliance on solar and wind generation, California also faces reliability hazards due to power inverters that serve solar and wind farms not being able to "ride-through" short-term disturbances, as occurred in California on four separate occasions between June and August 2021.[26] For individuals and communities that lack back-up power resources, a loss of electricity in an all-electric-vehicle world means a loss of personal mobility and an inability to get to and from work or school, secure food or obtain medical attention." (emph. orig., fn. omitted.)

Response: Please refer to Master Response 1.

The remainder of this comment relates to aspects outside the scope of the Draft EA, therefore no response is required. However, this comment is acknowledged for the record and has been considered by CARB prior to final consideration.

OP-121-3: The commenter states "CARB is required to consider emissions reduction strategies that will "achieve the maximum technologically feasible and cost-effective reductions in greenhouse gas emissions in furtherance of achieving the statewide greenhouse gas emissions limit."[36] Similarly, for all rulemakings, CARB is required to consider a reasonable range of alternatives, including "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."[37] California Environmental Quality Act (CEQA) Guidelines also specify that CARB must consider a reasonable range of alternatives, which "shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects."[38] California is required under AB 32 to "evaluate the total potential costs and total potential economic and noneconomic benefits of the plan for reducing greenhouse gases to California's economy, environment, and public health" and "update its plan for achieving the maximum technologically feasible and cost-effective reductions of greenhouse gas emissions".[39] Rather than living up to the statutory mandate, ACC II allows millions of dollars in legacy technology and infrastructure to go to waste while seeking to eliminate affordable alternatives that offer substantial opportunities for more cost-effective greenhouse gas emission reductions that work in the current vehicle fleet. In order to truly prioritize low-income communities—instead of just merely "considering" them—CARB should refrain from finalizing its proposed regulation until the state has enacted the protections these communities need and deserve." (fn. omitted.)

Response: This comment does not raise any specific issue with the adequacy of CEQA analysis done for the Proposed Program. Rather, the comment takes issue with the Proposed Program's priorities. The significant pollution reductions from the Proposed Program as a whole, when accounting for cleaner ICEVs as well as ZEVs, would reduce exposure to vehicle pollution in communities throughout California, including in low-income and disadvantaged communities that are often disproportionately exposed to vehicular pollution. Further, the proposed ZEV assurance measures, discussed in Chapter III.D of the ISOR, would ensure these emissions benefits are realized and long-lasting, while supporting more reliable ZEVs in the used vehicle market, where the cost of ZEVs become more affordable to lower-income households just as used conventional vehicles are more affordable than new. Staff have also proposed provisions, discussed in Chapter IX of the ISOR, to encourage manufacturers to take actions that improve access to ZEVs for disadvantaged, low-income, and other frontline communities, including by investing in community car share programs, producing affordable ZEVs, and keeping used vehicles in California to support CARB's complementary equity incentive programs.

Please also refer to Master Response 3.

The remainder of this comment relates to aspects outside the scope of the Draft EA, therefore no response is required. However, this comment is acknowledged for the record and has been considered by CARB prior to final consideration.

OP-121-4: The commenter states "**B. CARB Must Perform a More In-Depth Assessment of the Consistency of its ACC II ZEV Measures with State Emission Reduction Goals.**

As with economic impacts and technological feasibility, CARB is required to evaluate its proposed regulations for consistency with state air quality standards and GHG emission reduction goals. CARB must take expeditious action to address both ambient air quality standards and short-lived climate pollutants in California—here, CARB has failed to comply with this mandate by allowing out-of-state emissions reductions to fulfill state compliance obligations.

Specifically, the HSC requires CARB to consider the following:

- HSC § 39602.5(a)— ambient air quality standards ("The state board shall adopt rules and regulations pursuant to Section 43013 that, in conjunction with other measures adopted by the state board… will achieve ambient air quality standards… in all areas of the state by the applicable attainment date, and to maintain these standards thereafter");

- HSC § 43000.5(d)— reductions in vehicle emissions and smoke to achieve attainment goals ("The state board should take immediate action to implement both short- and long-range programs of across-the-board reductions in vehicle emissions and smoke,… which can be relied upon by the districts in the preparation of their attainment plans or plan revisions");

- HSC § 43013(2)(h)— nitrogen oxide emissions ("It is the intent of the Legislature that the state board act as expeditiously as is feasible to reduce nitrogen oxide emissions from diesel vehicles, marine vessels, and other categories of vehicular and mobile sources which significantly contribute to air pollution problems") (emphasis added);

- HSC § 43018(a)—maximum degree of emission reduction ("The state board shall endeavor to achieve the maximum degree of emission reduction possible from vehicular and other mobile sources in order to accomplish the attainment of the state standards at the earliest practicable date") (emphasis added);

- HSC § 38560—GHG emissions reductions ("The state board shall adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective greenhouse gas emission reductions from sources or categories of sources");

- HSC § 39730.5—short-lived climate pollutants (requiring CARB to achieve "a reduction in the statewide emissions of methane by 40 percent, hydrofluorocarbon gases by 40 percent, and anthropogenic black carbon by 50 percent below 2013 levels by 2030") (emphasis added).

California has not attained national air quality standards statewide. According to EPA's Green Book database, 19 areas in California are currently out of attainment for one or more criteria pollutants.[40] Of these nonattainment areas, currently eight are listed as "serious" and two are

listed as "extreme" for at least one standard, the two highest possible listings.[41] The California legislature has determined that securing attainment in all areas of the state requires CARB to take steps to achieve "substantial reductions in new vehicle emissions and substantial improvements in the durability of vehicle emissions systems."[42]

In addition, the California legislature has set ambitious targets for GHG emissions reductions in the state. Under SB-32, CARB must "ensure that statewide greenhouse gas emissions are reduced to 40% below the 1990 level by 2030."[43] Further, under SB1383, CARB must also address short-lived climate pollutants, achieving "a reduction in methane by 40%, hydrofluorocarbon gases by 40%, and anthropogenic black carbon by 50% below 2013 levels by 2030."[44] In meeting these targets, CARB is required to maximize emissions reductions and achieve these targets as soon as possible.[45]

CARB's ACC II Program undermines achievement of these California-centric emissions reduction goals by allowing vehicle manufacturers to comply with in-state ZEV sales mandates by pooling ZEV and PHEV values from different states. CARB's proposal requires manufacturers to meet an increasing percentage of new vehicle sales in California as ZEVs and PHEVs, where compliance is measured by assigning vehicle "values" for each vehicle produced that meets certain minimum technical requirements.[46] However, the proposal also includes a purported "flexibility" mechanism, "allowing all manufacturers to transfer or 'pool' excess ZEVs and PHEVs earned in California or individual Section 177 States to meet a shortfall in any given model year (or a deficit carried forward from a previous model year) elsewhere."[47] Manufacturers can meet up to 25% of their annual compliance obligations in model year 2026 by relying on pooling, with this percentage declining by 5% for subsequent model years.[48] In the ISOR, CARB explains that "allowing manufacturers to use pooled ZEV and PHEV values would help them manage year to year fluctuations in annual vehicle volumes especially across different states and still allow for full compliance," emphasizing that, under this approach, "market demand for ZEVs will increase and costs will tend to decline faster than they otherwise would."[49]

However, CARB's proposed pooling approach is utterly inconsistent with its obligations to maximize in-state emissions reductions and undermines the purported efficacy of its ZEV regulations. CARB has repeatedly emphasized that its ZEV sales mandate is essential for meeting in-state emissions reductions goals— "Transitioning to zero-emission technology for every on- and off-road mobile sector is essential for meeting near- and long-term emission reduction goals mandated by statute, with regard to both ambient air quality and climate requirements."[50] The pooling program sacrifices in-state emissions reductions from ZEV sales and interferes with state attainment goals by allowing manufacturers to meet a substantial portion of their compliance obligations out of state.[51] Many of the Section 177 states where pooling would be available are located across the country, where increased ZEV sales would have no impact on California's air quality.[52] Out of state sales do nothing to further California ambient air quality standards or short-lived climate pollutant reduction strategies." (emph. orig., fn. omitted.)

Response: This comment relates to the proposed ACC II pooling provision and asserts that the provision prevents the program from meeting statutory requirements to expedite and

maximize reducing emissions in California. The concept of pooling would allow manufacturers to transfer or "pool" ZEV and PHEV sales in excess of their individual state requirement from one state to another state to accommodate variation in sales, particularly for states where ZEV adoption is not currently as high as in California. The pooling provision allows manufacturers in the 2026 through 2030 model years to use excess ZEVs and PHEVs delivered for sale to meet up to 25 percent of their annual requirement in 2026, declining to 5 percent by 2030, if they have a shortfall in another state. While the comment states that the proposed pooling approach is inconsistent with obligations to maximize in-state emissions reductions and undermines the efficacy of the ZEV regulation, as described in the Draft EA section 2.D.5, the pooling provision is likely to increase the number of ZEVs and PHEVs delivered for sale in California relative to the regulatory ZEV stringency requirement since it is likely that manufacturers will over comply in states that have large market potential, such as California, to meet compliance in other states where the market may be less developed in the early years of the program.

To date, no manufacturers have failed to comply with the existing ZEV regulation in California and manufacturers have consistently over-complied.[53] There is no credible evidence before CARB that indicates this trend will reverse to result in under-compliance in California and over-compliance in other states. Moreover, CARB has determined the regulatory requirements meet the statutory requirements, including for stringency, feasibility, and cost-effectiveness. The options for pooling are designed to reduce compliance costs and burdens, supporting deployment of zero-emission vehicles. The pooling provision is a compliance flexibility that serves to minimize the overall costs of the regulation. The provision is expected to promote compliance at the least cost, which will have the effect of maximizing emission reductions in California. Based on manufacturer and other stakeholders' comments supporting these options, the evidence shows that despite potential year-to-year variations in vehicle deployment in California due to the use of the available options, the standards as a whole will maximize permanent emission reductions in California.

A main purpose of the Proposed Program is to reduce mobile source emissions of criteria air pollutants and toxic air contaminants to improve air quality. As explained in the Draft EA, the Proposed Program is projected to reduce NOx emissions by 69,569 tons and PM2.5 by 4,4469 tons by 2040 in California, and these estimates do not include potential reductions achieved as a result of additional sales. Thus, the pooling provision does not sacrifice in-state emission reductions from ZEV sales; on the contrary, it encourages more ZEV sales in California, which would result in further emission reductions in-state than estimated.

The remainder of the comments submitted relate to aspects outside the scope of the Draft EA, therefore no response is required. However, these comments are acknowledged for the record and have been considered by CARB prior to final consideration.

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[53] California Air Resources Board. 2021. 2020 Zero-Emission Vehicle Credits. Released December 2021. Accessed January 28, 2022. https://ww2.arb.ca.gov/sites/default/files/2021-12/2020_zev_credit_annual_disclosure_ac.pdf.

Comment Letter OP-122

5/31/2022 Jennifer Hernandez
The 200

OP-122-1: This comment is duplicative of comment OP-121-1.

Response: Please refer to Response to Comment OP-121-1.

OP-122-2: This comment is duplicative of comment OP-121-2.

Response: Please refer to Response to Comment OP-121-2.

OP-122-3: This comment is duplicative of comment OP-121-3.

Response: Please refer to Response to Comment OP-121-3.

OP-122-4: This comment is duplicative of comment OP-121-4.

Response: Please refer to Response to Comment OP-121-4.

The remainder of the comments submitted relate to aspects outside the scope of the Draft EA, therefore no response is required. However, these comments are acknowledged for the record and have been considered by CARB prior to final consideration.

Comment Letter OP-123

5/31/2022 Michael Saragosa
Vice Mayor, City of Placerville

OP-123-1: The commenter states "The State's energy agencies just issued a warning our electrical grid lacks sufficient capacity to keep the light on this summer. El Dorado County already is victim to capricious "PSPS" events, and this Plan will only exacerbate our region's blackouts and bring more suffering to residents. Also, we are not close to having the infrastucture necessary to support an all eletric future especially when PG&E has failed to upcome infrastructure over decades.

Its simply not realistic to think rural areas have the ability to make this transition in such a short time without massive state investment in hardening and upgrading the grid." (sic)

Response: Please refer to Master Response 1.

The remainder of the comments submitted relate to aspects outside the scope of the Draft EA, therefore no response is required. However, these comments are acknowledged for the record and have been considered by CARB prior to final consideration.

Comment Letter OP-129

5/31/2022 Patty Poire
Kern County Farm Bureau

OP-129-1: The commenter states "Kern County is one of the driest and warmest regions of the state with residents paying some of the highest energy rates in California. ACC II would increase already high electricity rates for local area residents and further stress our overburdened energy grid. The southern San Joaquin Valley is also one of the most economically challenged regions of the state and forcing households to transition to higher priced electric vehicles would further saddle those families suffering economic hardship with more debt. Farmers and ranchers who are already challenged to meet the world's demand for food with less water could be crushed by the costs of new electric powered truck fleets and operate those fleets in a rural environment where the infrastructure to support mass electric vehicle charging is non-existent may threaten a producers ability to products to market safely, without spoilage, and on time."

Response: This comment relates to the economic impact of the Proposed Program. The Draft EA is not meant to address economic, social, or financial issues associated with the Proposed Program. Rather, the purpose of CEQA and the Draft EA is to fully analyze and mitigate the Proposed Program's potentially significant physical impacts on the environment. As such, comments related to economic or financial concerns are outside of the scope of the Draft EA and not addressed in this response to comments document.

Please also refer to Master Response 1.

The remainder of the comments submitted relate to aspects outside the scope of the Draft EA, therefore no response is required. However, these comments are acknowledged for the record and have been considered by CARB prior to final consideration.

Comment Letter OP-140

5/31/2022 Tricia Stever Blattler
Tulare County Farm Bureau

OP-140-1: The commenter states "Californians are already feeling the burden of inflation with higher grocery bills. Not only will this mandate raise inflation, but it could add to food insecurity all over the state. The California grid can barely support our current energy usage. Forcing farmers to rely on that grid for transportation will increase energy usage and power outages. Power outages would mean transportation will be interrupted, and most food is perishable. These factors ultimately raise the cost of food to pay for higher energy consumption and food scarcity.

Public Safety Power shutoffs during times of emergencies, forest fires, and other catastrophic disasters could mean that Californians would not have access to charge their electric vehicles to escape and evacuate from areas of disaster. Low income communities, many situated here in the San Joaquin Valley could be impacted disproportionately by these changes."

Response: Please refer to Master Response 1.

The remainder of the comments submitted relate to aspects outside the scope of the Draft EA, therefore no response is required. However, these comments are acknowledged for the record and have been considered by CARB prior to final consideration.

Comment Letter OP-141

5/31/2022 Elizabeth Bourbon
Valero

OP-141-1: The commenter states: "Second, CARB fails to consider the leakage potential of its ZEV proposal, based on remaining demand for liquid fuels for ICEVs remaining in 2035 and beyond. CARB has a responsibility to minimize the "leakage" potential of any regulatory activities.[18] As part of this responsibility, CARB must analyze the potential for emission reduction activities in the state to be offset by an equivalent or greater increase in emissions of GHGs outside the state. This analysis necessarily requires estimating emissions impacts outside the state, which CARB has failed to do. CARB acknowledges in its ISOR that "ICEVs will remain in use on California's roads well beyond 2035,"[19] but fails to account for the economic and emissions consequences that would occur if disadvantages to California oil and gas production, refining, and renewable fuel businesses ultimately result in greater reliance on imports to meet remaining demand for non-transportation fuels impaired by this rulemaking and/or for residual transportation fuel demand." (fn. omitted.)

Response: The potential out-of-state emission impacts presented by this comment are speculative at best, as they are predicated on a hypothetical scenario in which the oil and gas industry would be adversely impacted to such a degree that its in-state production and capacity would decline faster than in-state oil and gas demand, causing increased importation of petroleum. There is no significant or credible evidence in the record to suggest that is foreseeable and it becomes even more speculative the further out in time, as the premise becomes more dependent on future developments, advances in technology, business decisions of a variety of firms, and changes to greenhouse gas or other air pollution laws and regulations. Indeed, this comment's scenario seems to conflict with economic theory: since the Proposed Program would reduce gasoline demand in California and is not directly regulating or increasing cost to refineries or changing existing production capacity, marginal gasoline production costs will not increase as a result of the Proposed Program. Therefore, there would be no driving force from the Proposed Program to increase petroleum imports.

Moreover, there is no reasonably foreseeable leakage of emissions from the Proposed Program. Such leakage could only occur if fuel production increases out-of-state because either in-state fuel production declines faster than in-state fuel demand or in-state fuel demand increases. The Proposed Program is projected to decrease overall liquid fuel demand in California and not projected to increase liquid fuel demand elsewhere, as CARB staff analysis found that the Proposed Program would reduce California refinery output (sales) by about 15% by 2040.[54] Production facilities in California are projected to continue to meet the decreasing demand in California and, in response to the decreasing demand, are projected to reduce production accordingly or shift excess production to other products if

[54] California Air Resources Board. 2022. *Advanced Clean Cars II Proposed Amendments to the Low Emission, Zero Emission, and Associated Vehicle Regulations Standardized Regulatory Impact Assessment (SRIA).* January 26. https://dof.ca.gov/wpcontent/uploads/Forecasting/Economics/Documents/ACCII-SRIA.pdf. See Table 60.

supported by the market (or perhaps to displace production—and likely correspondingly reduce emissions—elsewhere). There is no substantial or credible evidence to the contrary and the unsupported comment supplies none.

Even if there were somehow emissions leakage from the Proposed Program because of a hypothetical complete phase-out of the petroleum industry in California that led to increased imports of petroleum, an estimate of those emissions does exist in CARB's analysis and there likely would still be a net reduction in emissions. Figure 3 in section 2.1.4 of the SRIA shows anticipated emission reductions from decreased liquid fuels refining as a result of the Proposed Program. Hypothetical increased out-of-state production would, to some degree, offset these emission reductions, though the exact degree cannot be known in advance or otherwise predicted, as it would depend on many factors, including where production occurs. As described above and in the Draft EA (as well as in the rulemaking record),[55] the Proposed Program would result in a clear overall net decrease in demand for petroleum fuels in California, without increasing the demand for such fuels in other states. Therefore, there is no basis for anticipating emissions leakage relating to petroleum production. Furthermore, even if such leakage occurred, it would be minimized by the Proposed Program because it would only be an amount necessary to fill the supply gap to meet demand and would not overcome the overall emission reductions from the Proposed Program.

To the extent this comment intends to include travel of purchasers to other states within the concept of emissions leakage, such travel is taking place currently for a number of reasons unrelated to whether the vehicle is a ZEV, PHEV, or ICEV. For instance, buyers may purchase a vehicle outside California to find a specific make or model, or at a different cost. CARB does not anticipate an influx of new vehicles purchased out of state, as new vehicles that do not meet the State's emissions requirements cannot be registered if purchased outside of the state and imported if the vehicle is less than 2 years old and has less than 7,500 miles of operation.[56] Moreover, the demand for ZEVs and PHEVs is growing and, as the vehicles and batteries become cheaper, these vehicle types are better able to meet a wider variety of transportation needs, and charging continues to become more widely available. Prospective buyers will be more and more likely over time to choose the vehicles that meet the emissions requirements of the Proposed Program. (See ISOR pages 14 and 20-21).

To the extent this comment relates to economic impacts, such impacts are outside the scope of the Draft EA and will be responded to in the Final Statement of Reasons. Additionally, emissions impacts from business activity currently taking place in California will either be the same or otherwise mitigated as subject to local air permit districting per federal and state law. As a result, CARB staff does not anticipate an increase of emissions in neighboring jurisdictions as a result of the Proposed Program.

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[55] See, e.g., SRIA at 34.
[56] California Department of Motor Vehicles. 2020. How to Register a Vehicle from Out of State. March. Accessed July 8, 2022. https://www.dmv.ca.gov/portal/file/how-to-register-an-out-of-state-vehicle-htvr9/.

OP-141-2: The commenter states "Third, CARB fails to consider the potential climate, environmental, health and economic impacts that may result from CARB's rulemaking if the targets under the proposed ACC II cannot be met. California has established itself as a global leader in climate action and has a history of "aiming high" with its climate goals, only to adjust or modify aspirational targets that were ultimately unachievable. In the past, numerous and robust contingencies were available to Californians, owing to the flexibilities and capabilities of the auto manufacturing, oil and gas extraction, refining, and renewable fuels industries, to ensure that Californians have always enjoyed security of access to personal mobility – i.e., dealer lots full of vehicles and gas stations with ample supplies of fuel. Now, CARB is closing the door on those industries, stripping them of their flexibilities and eliminating the contingencies that Californians have historically relied upon. Moreover, it is doing so in the midst of "unprecedented stress on California's energy system",[1] record inflation, extraordinary supply chain disruptions, global uncertainty due to the lingering pandemic and the war in Ukraine, and critical concerns about the availability, cost and foreign dependence of minerals needed for EV batteries. As we have learned from the energy crises caused by the war in Ukraine and the impacts to global climate efforts, CARB cannot responsibly move forward on the ACC II rulemaking without analyzing the risks and impacts of its own actions and establishing viable contingencies." (fn. omitted.)

Response: Please see Master Response 1 in relation to the commenter's concern relating to "stress on California's energy system."

Please see Master Response 2 in relation to the commenter's concerns relating to mineral use in EV batteries.

All other aspects of this comment relate to the economic impact of the Proposed Program. The Draft EA is not meant to address economic, social, or financial issues associated with the Proposed Program. Rather, the purpose of CEQA and the Draft EA is to fully analyze and mitigate the Proposed Program's potentially significant physical impacts on the environment. As such, comments related to economic or financial concerns are outside of the scope of the Draft EA and not addressed in this response to comments document. However, this comment is acknowledged for the record and has been reviewed by CARB staff prior to returning to the Board for final consideration. CARB staff will be responding to all comments received to date, including those received at the second Board Hearing, in the Final Statement of Reasons.

OP-141-3: The commenter states "Driven by policies like those in California, automakers have committed to ending production of ICEVs. What if we cannot secure the minerals needed for EV batteries, and the automakers cannot supply the needed EVs?"

Response: This comment does not raise issue with the adequacy of analysis, including the CEQA analysis, done for the Proposed Program. Rather, the comment suggests that minerals necessary to achieve the Proposed Program's goals may be unavailable. Please refer to Master Response 2.

The remainder of this comment relates to aspects outside the scope of the Draft EA, therefore no response is required. However, this comment is acknowledged for the record and has been considered by CARB prior to final consideration.

OP-141-4: The commenter states "What if the build-out of charging infrastructure cannot keep up with the ACC II mandates, and Californians cannot charge their EVs?

- What if the grid cannot reliably keep up with the ACC II mandates, and Californians find themselves routinely stranded, unable to get to and from work/ school, unable to obtain food or medical assistance?"

Response: Please refer to Master Response 1.

The remainder of this comment relates to aspects outside the scope of the Draft EA, therefore no response is required. However, this comment is acknowledged for the record and has been considered by CARB prior to final consideration.

OP-141-5: The commenter states "III. CARB Must Consider Grid Reliability Impacts from the Electrification of the Transportation Sector.

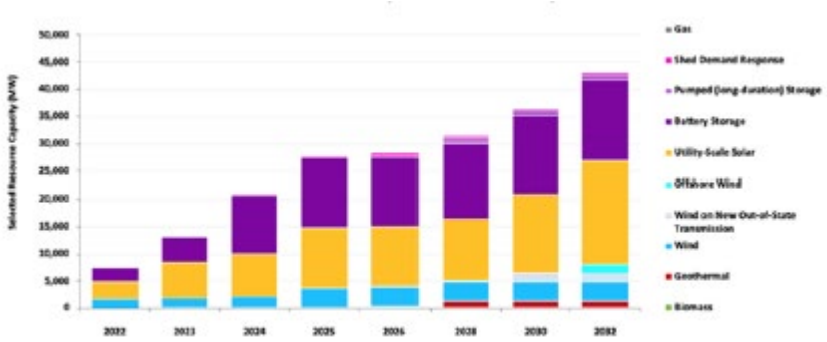
As part of its evaluation of potential economic impacts to the welfare of California residents and in-state businesses, CARB must assess grid reliability impacts stemming from ACC II's forced electrification of the transportation sector.

ACC II and other CARB rulemakings will intensify California's current supply challenges by exponentially increasing demand for electricity in California. The accelerated buildout of California's electrical grid will itself have public health consequences for local communities. California has 25,526 miles of higher voltage transmission lines, and 239,557 miles of distribution lines[22]—enough to stretch from the Earth to the moon. Additional electrical infrastructure will need to be introduced into the environment as a result of increasing demand for reliable and renewable energy supplies under ACC II. The electrical buildout required will have considerable impacts on communities living in proximity to visual intrusion (for overhead power lines), noise and a reduction of property values, along with potential health risks associated with the increased likelihood of wildfires and exposure to electromagnetic fields. Disadvantaged communities will bear the burden of living approximate to California's expanding grid, containing high-voltage transmission and power lines as well as battery storage technologies prone to thermal runaway, which can trigger releases of toxic and explosive gasses while also starting fires that impact neighboring cells. Above-ground power lines expose those nearby to the risk of electrocution and electric shock injury due to downed or faulty power wires and defective equipment. Storms and trees routinely knock down cables and natural elements cause deterioration of inadequately maintained infrastructure. These dangerous conditions lead to deaths, injuries, and heightened wildfire risk. California's rural and low-income stakeholders would also bear the risk of any medical unknowns. Claims about health effects from exposure to magnetic fields have been made since the late 1970s.[23] Pooled analyses showed a small but consistent association between childhood leukemia and living near an overhead power line, and led to

renewed attention for the potential health risks of power lines.[24] A 2007 report by the World Health Organization concluded that when it comes to the link between power lines and childhood leukemia "…on balance, the evidence is not strong enough to be considered causal, but sufficiently strong to remain a concern".[25]

While securing additional generation capacity will mitigate some of these supply challenges, overreliance on renewable generation may exacerbate existing shortages, particularly during early evening hours. The California Public Utility Commission's ("CPUC") recently adopted Integrated Resource Plan for 2018-2020 demonstrates that substantial new resource capacity will be required to support accelerated electrification.[26] The CPUC's preferred portfolio for electricity generation heavily relies on substantial scale-up of renewable resources that already face reliability challenges:

New Resource Buildout Based on CPUC's Preferred Portfolio[27]



By 2026, when ACC II goes into effect, the CPUC must plan for a new resource buildout of 28,154 MW, climbing to 43,131 MW by 2032.[28] Nearly half of this capacity depends on battery storage, for which feasibility has not been demonstrated, and the majority of the remaining capacity is supplied by utility-scale solar, which also involves significant feasibility concerns.[29] Battery storage at this scale would result in significant additional demand for critical minerals, increasing consumers' costs for both electricity and for electric vehicles. And with increasing reliance on solar and wind generation, California also faces reliability hazards due to power inverters that serve solar and wind farms not being able to "ride-through" short-term disturbances, as occurred in California on four separate occasions between June and August 2021.[30] CARB has failed to include any assessment of these reliability challenges, despite its legal duty to do so.[31]" (fn. omitted.)

Response: Please refer to Master Response 1. Where, when, and how construction occurs in building additional electric utility infrastructure is very fact-dependent and varies depending on factors such as natural resources, consumer demand, economic influences, geography, and other factors. It is speculative and not reasonably foreseeable at this time to anticipate all the environmental impacts of all downstream projects to this programmatic Draft EA.

CARB disagrees with the claims regarding health effects from transmission lines. Contrary to the commenter's claims, official sources have noted that no consistent evidence exists for an

association between any source of non-ionizing electromagnetic frequencies and cancer.[57] Due to a high degree of uncertainty surrounding electromagnetic impacts on health, as well as speculation about any location of any future project, it is speculative that the Proposed Program would result in negative health impacts suggested by the commenter.

CARB also notes that the commenter neglects to acknowledge the vast amount of evidence (discussed throughout this rulemaking record and elsewhere) linking fossil fuel extraction, refining, and combustion to a myriad of adverse health effects encountered by our communities (including, in particular, disadvantaged communities). A primary purpose of the Proposed Program is to eliminate the more harmful fossil fuel-caused emissions that currently come from the predominant fuels used to power California's transportation sector. A more thorough discussion of the reduction in adverse health impacts as a result of the Proposed Program can be found in ISOR section VI.B.

The remainder of this comment relates to aspects outside the scope of the Draft EA, therefore no response is required. However, this comment is acknowledged for the record and has been considered by CARB prior to final consideration.

OP-141-6: The commenter states "**IV. CARB Must Fairly and Accurately Consider Lifecycle Emissions in its ACC II Proposal.**

In taking its cue for this rule from the Governor's directive to transition to electric vehicles, and by inaccurately deeming vehicles other than ICEV to be "Zero Emission Vehicles," CARB fails to meet its duty to fairly and accurately consider benefits of the regulation[32] and less costly but equally effective alternatives.[33] CARB's analysis arbitrarily overlooks the lifecycle impacts associated with electric vehicles, including the significant emissions, social, and national security impacts associated with battery production.[34]

Moreover, CARB also fails to consider whether emissions reductions from fuels used for ICE vehicles may be achieved in a shorter time frame and at a lower cost than would be required to force electrification of the light-duty fleet. Significantly, the life cycle GHG emissions associated with light- and heavy-duty vehicles that run on renewable diesel can be lower than the life cycle GHG emissions emitted by EVs. GREET analysis conducted by Southwest Research Institute[35] has indicated that GHG emissions from a light-duty vehicle that runs on renewable diesel with a carbon intensity of 25 g/Mj resulted in 25% lower life cycle GHG emissions when compared to an EV, as illustrated below and set forth in detail in Attachment A to these comments.[36]

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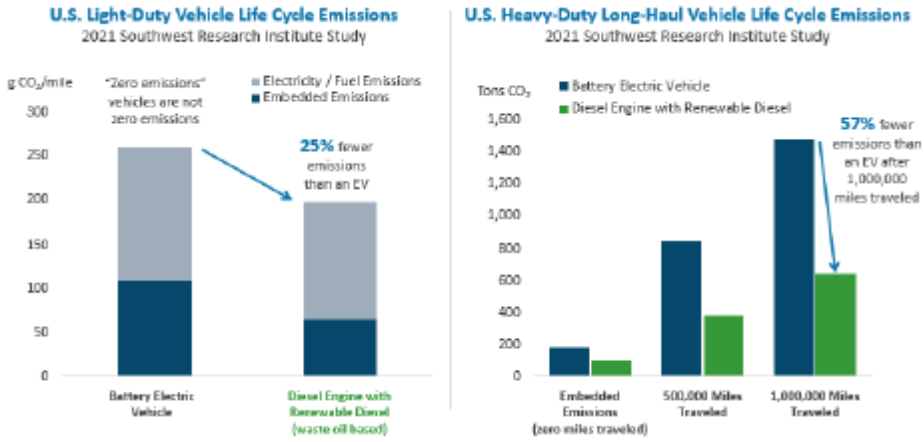
[57] *See, e.g.*, National Cancer Institute, *Electromagnetic Fields and Cancer*, available at https://www.cancer.gov/about-cancer/causes-prevention/risk/radiation/electromagnetic-fields-fact-sheet#what-have-studies-shown-about-possible-associations-between-non-ionizing-emfs-and-cancer-in-children (last visited August 22, 2022).



Additionally, there are emerging innovative approaches and new technologies to enable new modes of carbon reduction from fuels used in ICEV, such as carbon sequestration and on-board CO_2 capture.[37] It is unreasonable for CARB to foreclose any opportunity for such technologies to provide an alternative to the mandates proposed in the ACC II rule.

In order for CARB to conduct a reasonable assessment of significant economic impacts and to consider less costly and equally effective alternatives, as required by the Health and Safety Code, CARB cannot arbitrarily overlook lifecycle emissions impacts from ZEV while also overlooking opportunities for emission reductions involving ICEV fuels. CARB needs to fairly present the true carbon footprint and costs associated with electrification. CARB also should provide for highly efficient low emission vehicles and account for low-carbon fuels in the ACC II program. To do so would be cost-effective and equally, if not more, effective in meeting CARB's regulatory goals." (emph. orig., fn. omitted.)

Response: Please refer to Master Response 4.

The remainder of this comment relates to aspects outside the scope of the Draft EA, therefore no response is required. However, this comment is acknowledged for the record and has been considered by CARB prior to final consideration.

OP-141-7: The commenter states "**VII. CARB Does Not Adequately Consider Feasible Alternatives or the Full Range of Environmental Impacts.**

CARB's Draft Environmental Analysis ("EA") does not meet requirements under the California Environmental Quality Act ("CEQA") because it (1) fails to consider low-carbon fuel and engine technologies as feasible alternatives and (2) ignores a number of potentially significant environmental impacts." (emph. orig.)

Response: Please refer to Master Response 3 regarding the reasonable range of alternatives considered by Draft EA. The remainder of this comment is conclusory or introductory in nature and does not provide an environmental impact which requires a respond. Please see the following responses for individual responses to these topics.

OP-141-8: The commenter states "**A. The Environmental Analysis Must Consider Low-Carbon Fuel and Engine Technologies as Alternatives.**

In the EA, CARB has failed to consider further supporting the production of low-carbon fuel and engine technologies as an alternative that can immediately reduce GHG emissions today.[50] Valero urges CARB to recognize the proven value of low-carbon liquid fuel technologies and present a scientifically credible alternatives analysis in its Final EA that compares the costs and benefits of these feasible technologies to the costs and benefits of electric vehicles.

While CARB has previously asserted that considering low-carbon alternative fuel and engine technologies is outside the scope of the ACC II rulemaking, this does not appear to be correct from a legal or policy standpoint. According to the Draft EA, the "primary objectives" of the ACC II Program include goals to "[m]aintain and continue reductions in emissions of GHGs beyond 2020" and "[c]omplement existing programs and plans to ensure, to the extent feasible, that activities undertaken pursuant to the measures complement, and do not interfere with, existing planning efforts to reduce GHG emissions..."[51] Low-carbon fuel and engine technologies align with these primary objectives, and thus, CARB should consider how these technologies can achieve more immediate environmental benefits while mitigating any cost burdens the ACC II Program may impose, especially with regard to low-income communities. Indeed, not doing so would conflict and "interfere with existing planning efforts to reduce GHG emissions [and] criteria pollutants"—namely, the LCFS and RFS.

In the ACC II rulemaking, CARB is required to consider a reasonable range of alternatives, including "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."[52] This aligns with the California Environmental Quality Act ("CEQA") Guidelines, which also specify that CARB must consider a reasonable range of alternatives that "shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects."[53] The CEQA Guidelines define "feasible" as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors."[54] Specifically, when considering the feasibility of alternatives, the CEQA Guidelines provide the following factors to consider: "economic viability, availability of infrastructure, general plan consistency, other plans, or regulatory limitations, [and] jurisdictional boundaries."[55]

Importantly, CARB is prohibited from predetermining a particular method in order to narrow the alternatives it considers for achieving the agency's ultimate policy goals. When examining whether or not alternatives or particular features have been foreclosed by the agency, courts look "to the surrounding circumstances to determine whether, as a practical matter, the agency has committed itself to the project as a whole or to any particular features, so as to effectively preclude any alternatives or mitigation measures that CEQA would otherwise require to be considered."[56] By deeming ZEVs as the only acceptable technologies and not even considering in this rulemaking how other low-carbon technologies

could provide less costly and more timely reductions in GHG emissions, CARB is effectively predetermining the outcome of this proceeding. This predetermined outcome is not only arbitrary and capricious but also a violation of CARB's statutory obligations." (emph. orig., fn. omitted.)

Response: Please refer to Master Response 3.

The remainder of this comment relates to aspects outside the scope of the Draft EA, therefore no response is required. However, this comment is acknowledged for the record and has been considered by CARB prior to final consideration.

OP-141-9: The commenter states "**B. The Draft EA Fails to Consider Potentially Significant Environmental Impacts.**

CEQA requires that the Draft EA and Final 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."[57] The Draft EA for the Proposed Regulation fails to consider the following potentially significant environmental impacts:" (emph. orig., fn. omitted.)

Response: This comment is introductory in nature. Please see the following responses for individual responses to these topics.

OP-141-10: The commenter states "In view of the devastating wildfires in recent years that have been ignited due to failures of strained and poorly maintained electrical infrastructure, CARB must evaluate how the increased demand for electricity resulting from the proposed rule will increase the risk of wildfires, and CARB must further evaluate the potential impacts more frequent wildfires will have on public health and the environment. Wildfire smoke substantially contributes to $PM_{2.5}$ emission. A recent study by researchers from Stanford found that "the contribution of wildfire smoke to $PM_{2.5}$ concentrations in the US has grown substantially since the mid-2000s, and in recent years has accounted for up to half of the overall $PM_{2.5}$ exposure in western regions."[58] Exposure to wildfire smoke can contribute to "a range of negative health consequence[s]," and increased emissions from wildfires can "erode gains from efforts aimed at reducing $PM_{2.5}$ from other pollution sources." [59] ACC II worsens existing wildfire risks to the additional detriment of air quality and public health, undermining not only clear legislative priorities but also CARB's responsibility to "coordinate, encourage, and review the efforts of all levels of government as they affect air quality."[60] As the agency charged with overseeing attainment for state criteria pollutant standards, CARB cannot overlook these impacts and the significant risk that increased wildfires will exacerbate existing nonattainment issues." (fn. omitted.)

Response: As disclosed in the Draft EA, beginning on page 143, the Proposed Program would not directly result in increased instances of wildfire. The CPUC is working in tandem with electric utilities throughout the state such as PG&E, San Diego Gas & Electric (SDGE), Southern California Edison (SCE), and others, to revitalize the existing electrical network to be more resilient to environmental pressures and reduce risk of accidental wildfire ignition.

Utilities also notify their residents prior to PSPS, which are periods of planned power outages when meteorological conditions are primed to spread wildfire (e.g., high winds coupled with high temperatures). Additionally, the risk of wildfire is directly tied to annual and seasonal precipitation trends, temperature, and amount of vegetation. Through the California Vegetation Treatment Plan (CalVTP), the California Department of Forestry and Fire Protection (CAL FIRE) is working diligently to treat portions of California's forests to improve forest health and mitigate the severity and frequency of wildfire.

While these wildfires would be sources of $PM_{2.5}$ emissions, such fires would not be the direct result of the Proposed Program and, thus, cannot be attributed by the Proposed Program.

Please also refer to Master Response 1.

OP-141-11: The commenter states "Regarding aesthetics, the Draft EA does not consider the unpleasing aesthetic of businesses that will close as a result of the Proposed Regulation. Because millions of businesses depend upon transportation as a factor, the ZEV mandate will likely result in the closure of not only gas stations, but many other kinds of businesses as well, including refining, maintenance, distribution, and construction companies. This could cause many gas stations and buildings within the state to become unoccupied and fall into a state of disrepair."

Response: As analyzed on page 128 of the Standardized Regulatory Impact Analysis (SRIA), "the vehicle repair and maintenance service industry is estimated to see negative impacts, including dealerships that have service departments, as ZEVs become a greater portion of the fleet. This trend would suggest that the number of businesses providing the services may decrease along with the reduced demand." As more consumers purchase ZEVs instead of ICEVs, vehicle purchasers are estimated to shift spending away from categories such as vehicle maintenance and repair and gasoline.

That said, there is evidence such businesses will shift or new businesses will emerge in those locations to accommodate new consumer demands as populations will continue to visit the residential, retail, commercial, and office uses located near those operations. For example, there is evidence that existing liquid refueling stations and providers are beginning to add ZEV refueling infrastructure, and in some instances are completely swapping those existing liquid refueling stations for ZEV refueling infrastructure.[58] It is anticipated that service businesses such as oil changes may revise their services to support ZEVs including with tire rotations, fluid top-offs, etc. The degree to which business closures potentially impacted by the Proposed Program would result in substantial physical impacts to properties or structures is highly speculative and is not reasonably foreseeable.

[58] Shell plc. 2022. Shell's Growing Public EV Charging Network. January 13. Accessed July 8, 2022. https://www.shell.com/energy-and-innovation/mobility/mobility-news/shells-growingpublic-ev-charging-network.html.

However, in an effort to provide full transparent disclosure, the following language has been added to page 71 of the Draft EA following the second paragraph on that page:

> The Proposed Program could induce the closing of existing retail stores such as gas stations and vehicle repair and maintenance facilities such as smog testing businesses and oil changing facilities. The closure of these businesses could result in the physical structures or property being used for new purposes or could degrade the visual quality of an area within that vicinity if there is a delay in transition to a new use.

This additional language does not trigger a new significant impact. CARB notes that gas stations are not typically regarded as scenic resources, and as explained above, evidence indicates that these properties can see continued use servicing ZEVs. Nevertheless, the Draft EA concluded that the Proposed Program's impact to aesthetic resources would be significant and unavoidable, and that finding remains valid. No further response is required.

OP-141-12: The commenter states "CARB does not consider how the Proposed Regulation could cause businesses to relocate to other states. The act of relocating to another state involves GHG emissions from transportation, as well as the potential construction of new business sites. Such transportation and construction could also injure wildlife."

Response: The potential adverse biological and transportation impacts that could occur from economic leakage from implementation of the Proposed Program would be similar to those impacts disclosed on pages 85–91 and 133–137 of the Draft EA. Biological resources and transportation networks could be affected by the construction and operation of new facilities, similar to what would occur from the construction of a new office, gas station, or other business that may move out of the state.

In Section 2.0, "Project Description," the Draft EA provides an overview of the project objectives, concepts of the Proposed Program, and outlines the potential compliance responses that could occur because of implementation of the recommended actions. As described in the last paragraph on page 2 of the Draft EA, "[t]he level of detail of impact analysis is necessarily and appropriately general because the Proposed Program is programmatic." The reasonably foreseeable compliance responses are analyzed in a programmatic manner for several reasons: (1) any individual action or activity would be carried out under the same program; (2) the reasonably foreseeable compliance response would result in generally similar environmental effects that can be mitigated in similar ways (Cal. Code Regs., tit.14, § 15168 (a)(4)); and (3) while the types of foreseeable compliance responses can be reasonably predicted, the specific location, design, and setting of the potential actions are unknown at this time. The basic purpose of CEQA is enumerated in CEQA Guidelines Section 15151, which states that "[d]isagreement among experts does not make an EIR inadequate, but the EIR should summarize the main point of disagreement among the experts. The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure." The Draft EA provides a good-faith effort to evaluate programmatically the potential for significant adverse impacts associated with implementation of the Proposed Program based on what is known at this time.

CEQA is clear that an indirect impact should be considered only if it is a reasonably foreseeable impact caused by the project. (Cal. Code Regs., tit. 14, §§ 15064(d)(3), 15358(a)(2).) An environmental impact that is speculative or unlikely to occur is not reasonably foreseeable. (Cal. Code Regs., tit. 14 § 15064(d)(3).) Attempting to predict decisions by regulated entities that may oversee construction or operation of facilities or infrastructure built as compliance responses to the actions included in the Proposed Program is inherently speculative, as these actions involve extensive decision-making processes. As a result, CARB's CEQA analysis covers all reasonably foreseeable activities, and avoids engaging in speculation about what specific actions may occur at specific locations.

This comment also relates to an economic or social impact of the Proposed Program. The Draft EA is not meant to address economic, social, or financial impacts associated with the Proposed Program. Rather, the purpose of CEQA and the Draft EA is to fully analyze and mitigate the Proposed Program's potentially significant physical impacts on the environment. As such, comments related to economic concerns are outside of the scope of the Draft EA. Please refer to Response to Comment OP-141-1 above for additional information pertaining to business leakage.

The Draft EA makes a good faith effort to disclose the potentially adverse environmental impacts of the reasonably foreseeable compliance responses under the Proposed Program and satisfies CARB's legal requirements under it certified regulatory program. The Draft EA is intended to be programmatic. No further response is required.

The remainder of this comment relates to aspects outside the scope of the Draft EA, therefore no response is required. However, this comment is acknowledged for the record and has been considered by CARB prior to final consideration.

OP-141-13: The commenter states "CARB does not consider how California residents will likely drive to other states to purchase more affordable, traditional vehicles. This will result in additional GHG emissions and also poses a threat to wildlife."

Response: The Proposed Program relates to new vehicle sales within the state and used vehicles are outside the scope of the program. Travel of purchasers to other states is currently taking place for a number of reasons unrelated to whether the vehicle is a ZEV, PHEV, or ICEV. Buyers may purchase a vehicle over state lines to find a specific make, model, or different cost. CARB does not anticipate an influx of new vehicles from other states, as new vehicles that do not meet California's emissions requirements cannot be registered if purchased outside of the state and imported if the vehicle is less than 2 years old and has less than 7,500 miles of operation. Furthermore, the ISOR (see pages 20-21) shows that demand for ZEVs and PHEVs is growing. And, as the vehicles and batteries become cheaper, (as described on page 21 of the Draft EA and on page 14-15 of the ISOR), and charging more widely available, prospective buyers will be more and more likely to choose the vehicles that meet the emissions requirements of the Proposed Program.

CARB staff also conducted an emissions sensitivity analysis (see ISOR Appendix D Section I.6) with lower new vehicle sales and lower scrappage of old vehicles in California and import of

gasoline vehicles from other states. In this sensitivity scenario, new vehicle sales are assumed to decrease due to both the price effect and consumers' hesitancy of ZEVs. Results show minimal impact to emissions. Compared to the proposed scenario, the sensitivity simulation showed 4.5% and 9.9% higher emissions for NO_x and CO_2 in 2040, respectively. The differences are much smaller than the benefits induced by the Proposed Program compared to the baseline. This suggests that the Proposed Program would still reduce air pollution emissions and improve the health of Californians, even after considering the upper bound effect of a possible change in consumer buying decisions.

Please also refer to Response to Comment OP-141-12 above for a summary of the programmatic nature of the Draft EA and for specific page numbers where potentially significant impacts to wildlife are disclosed.

OP-141-14: The commenter states "CARB does not adequately consider how, because the Proposed Regulation will likely increase vehicle costs, many Californians may choose to keep their cars for longer than they otherwise would have, thereby forgoing opportunities to replace their vehicles with more efficient models. This would also result in greater GHG emissions and criteria pollutants."

Response: ISOR Appendix D Section I.6 describes a vehicle emissions inventory sensitivity analysis conducted by CARB staff on emission impacts if the vehicle sales market is negatively impacted by ACC II due to slower sales and scrappage. This assumed that with the increase in new vehicle prices, the value of old vehicles will also rise, leading to lower scrappage rates of old vehicles (i.e., Californians keeping their cars for longer). Results show minimal impact to emissions. Compared to the proposed scenario, the sensitivity simulation showed 4.5% and 9.9% higher emissions for NO_x and CO_2 in 2040, respectively. The differences are much smaller than the benefits induced by the Proposed Program compared to the baseline. This suggests that the Proposed Program would still reduce air pollution emissions and improve the health of Californians, even after considering the upper bound effect of a possible change in consumer buying decisions.

OP-141-15: The commenter states "CARB does not adequately 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. The construction of these facilities, as well as the use of gas facilities, may have negative environmental impacts, including impacts on biological resources and increased GHG emissions."

Response: The electricity needed to power ZEV and PHEVs can be provided by California's electricity grid or a compliant distributed generation power source. Air pollutant emissions associated with producing electricity for ZEV and PHEVs will vary depending on the relative shares of zero/low-emission sources (e.g., hydro, wind, solar) and higher emission sources (e.g., coal- and natural gas -fired power plants) that are used.

California's electric grid is in a period of transition. The State continues to rapidly expand deployment of renewables and plan for greater electrification which, paired with SB 100's

clean electricity grid target, is designed to help achieve carbon neutrality no later than 2045. As mentioned in Section 1 of SB 100, "The 100 Percent Clean Energy Act of 2018", California aims for 100 percent of total retail sales of electricity in California to come from eligible renewable energy resources and zero-carbon resources by December 31, 2045. Moreover, as mandated by SB 100, the State's electrical utilities are legislatively required to procure 60 percent and 100 percent of their total energy supply from eligible renewable energy sources (i.e., solar, wind, geothermal, small-scale hydroelectric, and biomass) by 2030 and 2045, respectively.

As disclosed in Chapter 2 of the Draft EA, because the State is proposing to lean heavily on the electricity sector to transition away from fossil fuels in the transportation, buildings, and industrial sectors, the demand for electricity will be increasing. This load increase must be supported by sustained and significant build-out of electricity infrastructure in the form of generation, energy storage, and transmission and distribution infrastructure. State agencies and electric utilities have begun proactively planning for electrical distribution upgrades and new load for electric vehicles via statewide energy system planning processes. Additionally, new dispatchable capacity, storage and other zero-carbon resources, as well as demand-side management, can be utilized to maintain reliability with high concentrations of renewables. Vehicle smart charging systems can also help manage load to ensure that only critical charging is done during peak demand hours. The potential for vehicle-to-grid technology, where vehicles can support electricity load, hold the promise to support grid resiliency in the future.

In the event new natural gas units are constructed, potential impacts would be similar to those impacts identified throughout Chapter 4 of the EA for each resource area from the construction and operation of new infrastructure. However, it is not reasonably foreseeable that this would occur solely due to the Proposed Program, for the reasons stated above and in Chapter 2 of the EA, and, therefore, this impact is speculative to anticipate at this time.

As analyzed specifically in the Utilities and Services section and throughout the Draft EA, CARB anticipates the increased deployment of ZEVs as a result of the Proposed Program will lead to increased energy demand and require new or modified electric utility installation, connections, and expansions. The Draft EA also analyzes the impacts of potential construction that could foreseeably develop as a result of the Proposed Program, including under the Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Noise and Vibrations, and Tribal Cultural Resources, among others. However, where, when, and how construction occurs in building additional electric utility infrastructure is very fact-dependent and varies depending on factors such as natural resources, consumer demand, economic influences, geography, and other factors. It is speculative and not reasonably foreseeable at this time to anticipate all the environmental impacts of all downstream projects to this programmatic Draft EA. In addition, any new or modified facilities, no matter their size and location would be required to seek local or State land use approvals prior to their development. New or modified facilities in California would qualify as a "project" under CEQA, and part of the land use entitlement process for facilities proposed in California requires that each of these projects undergo environmental review consistent with the

requirements of CEQA and the CEQA Guidelines. In addition, CARB does not have the authority to require implementation of mitigation related to new or modified facilities that would be approved by local jurisdictions. The ability to require such measures is under the purview of jurisdictions with local or State land use approval and/or permitting authority.

Therefore, no edits to the Draft EA are required in response to this comment and no further response is required.

Please also refer to Master Response 1.

OP-141-16: The commenter states "CARB does not consider how the negative economic impact this Proposed Regulation will have on the petroleum industry could result in the abandonment of carbon capture, utilization, and storage technology already being developed, thereby increasing GHG emissions."

Response: This comment speculates that the Proposed Program will result in industries no longer pursuing carbon capture technologies, thus keeping other industries from reducing their GHG emissions or using such technologies. California's AB 32 law still requires the reduction of GHG emissions over time and less investment by the oil and gas industry in carbon capture technology does not change the legal requirement that emissions regulated under cap and trade will still have to be accounted for by industries that continue to produce regulated products. As such, there is no indication of an environmental impact here or that emissions would occur because of the Proposed Program.

This comment also relates to the economic impact of the Proposed Program. The Draft EA is not meant to address economic, social, or financial issues associated with the Proposed Program. Rather, the purpose of CEQA and the Draft EA is to fully analyze and mitigate the Proposed Program's potentially significant physical impacts on the environment. As such, comments related to economic or financial concerns are outside of the scope of the Draft EA and not addressed in this response to comments document. However, this comment is acknowledged for the record and has been reviewed by CARB staff prior to returning to the Board for final consideration. CARB staff will be responding to all comments received to date, including those received at the second Board Hearing, in the Final Statement of Reasons. No further response is required.

OP-141-17: The commenter states "CARB does not consider how requiring ZEVs will necessitate accessible residential charging stations, which will drive up the costs of housing in the state and could result in housing displacement."

Response: The comment speculates that new ZEV infrastructure could indirectly increase the cost of living in the state. Part 6 (California Energy Code) and Part 11 (California Green Building Standards or CalGreen) of the Title 24 California Building Energy Code includes tiered standards for constructing new residential and non-residential development to be EV capable. It is likely that future updates to the California Energy Code and CalGreen Code will include more stringent EV charging requirements, complementary to other regulations and programs to reduce GHG emissions, such as the Proposed Program. The notion that new

residential development having EV charging capacity would increase the cost of a home such that housing displacement would occur is speculative and the comment does not cite a study or data to support this claim. Speculation is beyond the scope of CEQA and, therefore, this speculative impact is not disclosed in the Draft EA. Additionally, federal tax credits are available[59] and many utilities in the state offer rebates to their customers towards the purchase of a Level 2 charger and/or towards electrical work needed to accommodate a new charger. Moreover, as noted in Chapter 2 of the Draft EA, the Proposed Program requires that all 2026 and subsequent model year ZEVs and PHEVs be equipped with convenience cords at the time of vehicle purchase. These cords must be at least 20 feet in length, be tested and listed by a nationally recognized testing lab as meeting the UL Standards for Electric Vehicle Supply Equipment (UL2594), have Level 1 and Level 2 capability, and have the ability to charge at lower charge rate (amperage) as selected by the user. The required convenience cord from automakers can help reduce the cost of residential charging and increase access. Programs, such as Clean Cars 4 All and Financing Assistance for Lower-Income Consumers, also provide rebates for Level 2 charging stations or charge credit for public fueling.

In addition, home charging is not so significant in cost to prohibitively increase housing costs to cause people to lose housing. Individual vehicle owners will see net cost-savings when considering the total cost of ownership for most ZEVs under the Proposed Program relative to conventional vehicles. CARB staff's total cost of ownership analysis shows that for battery electric vehicles (BEVs), operational savings will offset any incremental costs over the 10-year period evaluated. For example, a passenger car BEV with a 300-mile range that does not have a home charger will have initial annual savings occur in the first year for the 2026 model year technology and will see 10-year savings of over $3,200. For the 2035 model-year technology, the initial savings are nearly immediate and cumulative savings over 10 years exceed $7,500. While TCO savings are even more favorable for a BEV owner who has access to a residential charger, residential charging is not necessitated by the Proposed Program. As of March 2022, California had approximately 79,000 public and shared EV charging stations, including over 7,000 direct current fast changers, with additional investments underway to meet the 2025 goal of 250,000 public and shared EV charging stations as directed by Executive Order B-48-18.

No edits to the Draft EA are required in response to this comment. No further response is required.

OP-141-18: The commenter states "CARB does not consider the additional GHG emissions over the life cycle of ZEVs beyond the narrow snapshot in time of emissions at the tailpipe. The local air quality benefits of ZEVs' tailpipe emissions in California, if any, are thus offset

[59] *See* 26 U.S.C. § 48C.

and surpassed by these additional life cycle emissions, which exacerbate the global issue of climate change that ACC II is intended to address."

Response: CARB disagrees with the commenter's contention that a ZEV's lifecycle emissions surpass the emissions reductions it achieves during its operational life. This statement is not supported by the evidence, as documented in the record for this proceeding.

Please also refer to Master Response 4.

OP-141-19: The commenter states "CARB has not considered how increased demand for critical minerals and the resulting mining and smelting in potentially sensitive environments may adversely impact critical habitat, watershed impacts, endangered species, and indigenous people."

Response: Please refer to Master Response 2.

OP-141-19: The commenter states "CARB does not consider the cumulative effects of the factors mentioned above that could result in increases of GHG and criteria pollutant emissions."

Response: The cumulative GHG emissions and criteria air pollution of the Proposed Program are embedded within the emissions disclosed on page 83–84 and 104–105 of the Draft EA. The cumulative emissions were estimated using CARB's EMFAC2021 tool for on-road emissions and CARB's Vision model for upstream well-to-tank (WTT) emissions. Additionally, a sensitivity simulation was conducted to quantify how vehicle purchasers may react to the Proposed Program.

The EMFAC2021 model was adjusted to reflect the modified assumptions for BEV, FCEV, and sales fractions to account for the proposed manufacturer requirements. The Proposed Program was compared to the BAU case the includes increased ZEV fractions to relative to the finalized U.S. EPA GHG emission standards.

Upstream emission benefits were quantified using the same approach that was used in the 2020 Mobile Source Strategy with updated assumptions for fuel and energy supply. Those upstream, or WTT, emissions include sources from fuel production facilities such as electricity power plants, hydrogen production, biofuel production, and gasoline refineries, in addition to fuel feedstock collection and finished fuel product transportation and distribution. WTT emission factors for liquid fuels including gasoline, diesel, and hydrogen were developed based on California specific Low Carbon Fuel Standard (LCFS) data, CEIDARS/CEPAM, and CA-GREET, and while also taking LCFS compliance scenarios and SB 1505 into consideration. Compliance with the Renewable Portfolio Standard targets under the 100 Percent Clean Energy Act of 2018 was used to determine the electricity emissions factors.

For further details of the methodology on how the emissions analyses shown in the Draft EA were derived, please see Appendix D of the ISOR.

Cumulative impacts from the Draft EA are programmatically disclosed in Chapter 5, "Cumulative and Growth-Inducing Impacts" of the Draft EA starting on page 147 in the context of the Final EAs for the 2030 Target Scoping Plan Update and the 2016 State SIP Strategy. Where the aforementioned impacts noted in the comments above are relevant to the project (i.e., would occur), they are programmatically disclosed in a cumulative context in Chapter 5.0 of the Draft EA. No changes to Draft EA are required in response to this comment. No further response is required.

OP-141-20: The commenter states "Valero asks that CARB fully consider and provide mitigation measures for these factors, as it must do under CEQA.[61] Notably, supporting low-carbon fuels and efficient ICE technologies would be a potential mitigation measure, as demonstrated above."

Response: Throughout Chapter 4 of the Draft EA, potential project mitigation measures are identified and recommended for each respective resource area where impacts are found to be potentially significant. As emphasized in the Draft EA throughout Chapter 4 following the recommendation of resource-specific project-level mitigation measures, the authority to determine project-level impacts and require project-level mitigation lies with land use and/or permitting agencies for individual projects, and the programmatic level of analysis associated with the Draft EA does not attempt to address project-specific details of mitigation; there is inherent uncertainty in the degree of mitigation that may ultimately be implemented to reduce potentially significant impacts. The Draft EA makes a good faith effort to disclose potentially significant impacts and proposes project-level mitigation measures that could be implemented to reduce impacts. Pursuant to section 15002(g) of the CEQA Guidelines, the Draft EA identifies a significant effect, and CARB, the legal entity approving the Proposed Program, determines whether the adverse environmental effects can be substantially reduced and explains why they may not. In the context of the Draft EA, and the potentially significant impacts identified that may occur outside of the State, CARB cannot, with a high degree of certainty, precisely predict the locations of these impacts nor account for the regulatory environment that may be capable of reducing impacts to a less-than-significant level. Nevertheless, these potential adverse impacts are identified and disclosed in the Draft EA.

Please also refer to Master Response 3 for a discussion of why a low-carbon liquid fuel alternative was found to be infeasible for the Proposed Program.

The remainder of the comments submitted relate to aspects outside the scope of the Draft EA, therefore no response is required. However, these comments are acknowledged for the record and have been considered by CARB prior to final consideration.

Comment Letter OP-161

5/31/2022 Jim Verburg
Western States Petroleum Association

OP-161-1: The commenter states "**A.1.1 CARB must consider grid reliability impacts from the electrification of the transportation sector.**

As part of its evaluation of potential economic impacts to the welfare of California residents and in-state businesses, CARB must assess grid reliability impacts stemming from ACC II's forced electrification of the transportation sector.[17]

California already faces unresolved grid reliability issues that will be exacerbated by ACC II's ZEV targets and the resulting increases in electricity demand. During a heatwave in August 2020, nearly half a million Californians lost power. The California Independent System Operator's (CAISO) root cause analysis of these rotating outages identified three major causal factors, including:

- "The climate change-induced extreme heat wave across the western United States resulted in demand for electricity exceeding existing electricity resource adequacy (RA) and planning targets";

- "In transitioning to a reliable, clean, and affordable resource mix, resource planning targets have not kept pace to ensure sufficient resources that can be relied upon to meet demand in the early evening hours. This made balancing demand and supply more challenging during the extreme heat wave;"

- "Some practices in the day-ahead energy market exacerbated the supply challenges under highly stressed conditions."[18]

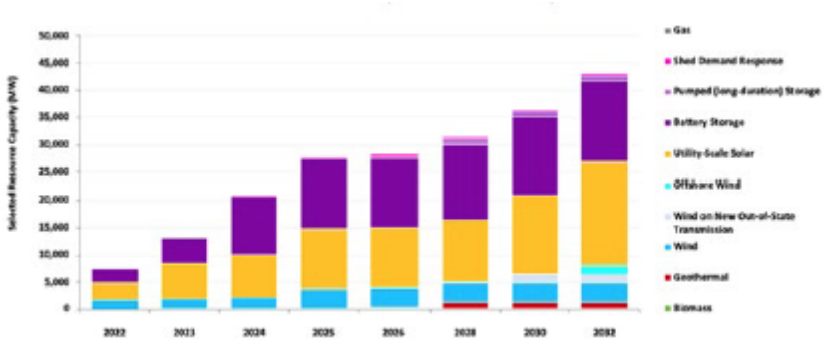
Recent studies reflect that factors affecting grid reliability are predicted to increase in future years. For example, a recent report by the California Legislative Analyst's Office indicates that California is expected to experience higher average temperatures; more frequent, intense, and prolonged heatwaves; and a greater number of extreme heat days due to climate change.[19] As these increasingly frequent extreme weather events increase demand for electricity, existing supply shortages will also worsen.[20] According to CAISO's 2021 Summer Loads & Resources Assessment,[21] 2021 faced "potential challenges in meeting demand during extreme heat waves … [which] affect a substantial portion of the Western Interconnection and cause simultaneously high loads across the West … reduc[ing] the availability of imports into the ISO balancing authority area." As recently as July 30, 2021, Governor Gavin Newsom issued an emergency proclamation highlighting that California currently faces an energy supply shortage of up to 3,500 megawatts during the afternoon-evening net-peak period of high-power demand on days when there are extreme weather conditions.[22,.23]

ACC II and other CARB rulemakings will exacerbate supply challenges by significantly increasing demand for electricity in California. According to discussions during a Staff

Workshop regarding the California Energy Commission's (CEC) 2022 Integrated Energy Policy Report Update, existing regulations are "very modest compared to what is on the near horizon and in the future"—increases in state electricity demand are already apparent, and the electrification of the transportation sector will increase demand by around 300,000 gigawatt-hours (GWh) statewide.[24] In addition, CARB's SRIA predicts a 20.23% increase in output for electric power generation, transmission, and distribution by 2040.[25]

While securing additional generation capacity will mitigate some of these supply challenges, overreliance on renewable generation may exacerbate existing shortages, particularly during early evening hours. The California Public Utility Commission's (CPUC) recently adopted Integrated Resource Plan for 2018-2020 demonstrates that substantial new resource capacity will be required to support accelerated electrification.[26] The CPUC's preferred portfolio for electricity generation heavily relies on substantial scale-up of renewable resources that already face reliability challenges.

Figure A-1. New Resource Buildout Based on CPUC's Preferred Portfolio[27]



By 2026, when ACC II goes into effect, the CPUC must plan for a new resource buildout of 28,154 MW, climbing to 43,131 MW by 2032.[28] Nearly half of this capacity depends on battery storage, for which feasibility has not been demonstrated, and the majority of the remaining capacity is supplied by utility-scale solar, which also involves significant feasibility and reliability concerns.[29] Battery storage at this scale would result in significant additional demand for critical minerals, increasing consumer costs for both electricity and electric vehicles. CARB has failed to adequately assess these reliability challenges, despite its clear legal duty to do so." (emph. orig., fn. omitted.)

Response: Please refer to Master Response 1.

OP-161-2: The commenter states "**A.1.3 CARB must consider life cycle emissions from Zero Emission Vehicles in evaluating the ACC II program.**

Along with impacts to the state's economy from proposed regulations, CARB is required to consider any less costly but equally effective alternatives.[44] The ISOR and associated rulemaking document do not satisfy this obligation because nowhere does CARB compare the life cycle emissions analysis of ZEVs and highly efficient low emission vehicles, which

impose significantly fewer infrastructure expenses while achieving equivalent or greater GHG emissions reductions on a faster timeline.

As noted by the National Bureau of Economic Research, "…despite being treated by regulators as 'zero emission vehicles', electric vehicles are not necessarily emissions free."[45] Battery production, transport, and disposal or recycling present emissions and waste impacts[46] as well as national security concerns.[47] Furthermore, as the Ramboll LDA Study observes, "it is likely that the vast majority of batteries produced in the future would require virgin material given the significant increase in demand under a mass vehicle electrification scenario."[48]

Low-carbon fuels like renewable diesel, ethanol and renewable gasoline should be evaluated as an alternative because they are compatible with existing vehicle infrastructure, from light- to heavy-duty long-haul vehicles right now. By contrast, electric vehicles require transformation of energy production and distribution infrastructure—which will take significant time even in the most optimistic scenarios. This makes low-carbon fuels a commonsense solution to reduce transportation GHG emissions near-term, allowing battery, hydrogen, and low-carbon intensity gaseous and liquid fueled vehicles to compete to achieve the State's GHG targets in the quickest and most cost-effective manner. For example, a scenario that phases in low-carbon intensity gasoline as a drop-in fuel for ICEVs over a two-decade period could reduce GHG emissions the same or more than the proposed ZEV-only mandate, when viewed on a life cycle basis. Other scenarios involving hybrid electric vehicles and PHEVs could be equally effective in providing GHG reductions when coupled with a phase in of low-carbon intensity gasoline.

Additionally, unlike with electric vehicles, vehicle owners that use drop-in fuels such as renewable diesel achieve emission reductions but do not have to face the high up-front cost to replace their current vehicles or the costs associated with locating and installing electric vehicle charging infrastructure.[49]

Accounting for life cycle emissions and short-term emissions reductions 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. From this perspective, including highly efficient low emission vehicles in the ACC II program is both less costly and equally effective in meeting CARB's regulatory goals, and CARB's failure to consider this alternative violates HSC § 57005." (emph. orig., fn. omitted.)

Response: Please refer to Master Response 4.

OP-161-3: The commenter states "Importantly, the question here is not only whether a vehicle manufacturer has the technology (and, inherent in this question, the resources) to produce a single electric vehicle. Rather, examining the technological feasibility of electric vehicle mandates must include asking whether vehicle manufacturers have the technology and resources to rapidly shift to producing electric vehicles—a relatively new technology category that requires different resources than traditional vehicles—by the millions, as well as whether there is a reliable supply of electricity to fuel them.

First, both the federal government and the private sector have recognized that critical minerals are essential to the future of electric vehicles, and likewise, that unstable critical mineral supply chains could disrupt this future. According to Rystad Energy, by 2024, global demand for nickel (one of the most widely used critical minerals for EV batteries) will have increased from 2.5 million tons to 3.4 million tons, thereby surpassing supplies.[51] Likewise, the International Energy Agency has estimated that lithium demand could increase by over 40 times by 2030, and cobalt could face similar demand issues.[52,53]

The U.S. is disproportionately reliant on international supplies of critical minerals necessary for electric vehicle and electric battery production. Ninety-one percent of the lithium that the United States imports is sourced from Chile and Argentina.[54] Relatedly, China has disproportionate influence compared to other foreign nations that produce cobalt, molybdenum, and other minerals needed to produce electric vehicles. For instance, the U.S. Geological Service (USGS) reported that domestic primary aluminum production in 2021 (880,000 metric tons) was less than half of domestic production in 2013 (1,946,000 metric tons).[55] China, however, possesses over half of the entire world's aluminum smelting capacity.[56] Seventy percent of the world's supply of cobalt comes from the Democratic Republic of Congo,[57] where eight of the largest 14 mines are Chinese-owned.[58] Similarly, U.S. domestic mining production of cobalt has declined (760,000 tons in 2015 compared to 700,000 tons in 2021).[59] Secondary cobalt production has also declined between 2017 and 2021 (2,750,000 tons to 1,600,000 tons).[60] The United States imports all its graphite and manganese, having no domestic production of these minerals. China produces 82 percent of the world's graphite,[61] while Gabon, a less stable country, provides 67 percent of the United States' manganese.[62] For any one of these minerals, ACC II's 100% electrification mandate could put the United States into a situation resembling the oil embargoes of the 1970s, where foreign actors control majorities of the critical raw material supplies used in the manufacture of fuels, battery, and motor components designed to provide transportation mobility services for the U.S. consumer.[63]" (fn. omitted.)

Response: Please refer to Master Response 2.

The remainder of this comment relates to aspects outside the scope of the Draft EA, therefore no response is required. However, these comments are acknowledged for the record and have been considered by CARB prior to final consideration.

OP-161-4: The commenter states "California's ACC II mandates risk arbitrarily exacerbating supply chain strains, and CARB does not adequately account for how the increasing adoption of electric vehicles will further affect the technological feasibility of its proposed mandates. In the Draft Environmental Assessment (EA), CARB identifies this problem but does not offer a solution: "In summary, while substantial research has been done and there is a clear commitment to increasing domestic supply of lithium, exact actions that will be taken in response to this goal of increasing domestic supply of lithium are yet to be identified with certainty."[64]" (fn. omitted.)

Response: CARB recognizes that its rules and regulations aimed to decarbonize the state through the use of zero-emission technology may induce new demand for various metals

including lithium, graphite, cobalt, nickel, copper, manganese, chromium, zinc, and aluminum; however, CARB and the Proposed Program are not solely responsible for an increase in demand for these metals. Various international efforts are underway to electrify the mobile-source sector pursuant to commitments made in the UN Paris Accord, Kyoto Protocol, and by members of the Under2 Coalition, among others. In response to international efforts, the recycling of lithium-ion batteries is increasing, as discussed in pages 32 to 39 of the Draft EA, to ensure that minerals are recovered and reused instead of discarded. Additionally, new sources of lithium, among other minerals, have been identified internationally and domestically, including new mining in the Imperial Valley, which the CEC's Lithium Valley Commission estimates may have sufficient lithium supplies to meet 40 percent of the world's total lithium demand, coupled with renewable energy and more sustainable extraction processes (a final report is expected to be submitted to the State Legislature by October 2022).

Please also refer to Master Response 2.

The remainder of this comment relates to aspects outside the scope of the Draft EA, therefore no response is required. However, this comment is acknowledged for the record and has been considered by CARB prior to final consideration.

OP-161-5: The commenter states "Second, as described in detail above, California already faces unresolved grid reliability issues that will be exacerbated by ACC II's ZEV targets.[65] Increases in state electricity demand are already apparent, and electrification of the transportation sector will increase demand by around 300,000 GWh statewide.[66] By 2026, when ACC II would go into effect, California will need an additional 28,154 MW, climbing to 43,131 MW by 2032.[67] Nearly half of this capacity depends on battery storage that has not been demonstrated, and the majority of the remaining capacity is supplied by utility-scale solar, which also presents significant feasibility concerns.[68] It is entirely unreasonable to determine that a vehicle is technologically feasible solely because it can be built when it simultaneously cannot reliably operate because it does not have the power to do so. Creating a rapid increase in electricity demand before more renewable energy infrastructure is built could increase emissions from traditional energy generating sources and offset GHG reductions achieved by ZEVs, an unintended consequence CARB did not consider.

By failing to account for these issues, CARB not only offers an arbitrary and capricious assessment of technological feasibility, but also violates its statutory obligations as set forth in the APA and HSC." (fn. omitted.)

Response: Please refer to Master Response 1.

The remainder of this comment relates to aspects outside the scope of the Draft EA, therefore no response is required. However, this comment is acknowledged for the record and has been considered by CARB prior to final consideration.

OP-161-6: The commenter states "**A.5 ACC II thwarts legislative priorities by undermining wildfire resilience and exacerbating impacts to low-income communities.**

The California legislature has made clear that wildfire resilience is a priority for the state. Despite this clear legislative priority, CARB's proposed ACC II program will undermine wildfire resilience by forcing electrification of the transportation sector through its ZEV sales mandate, which will necessarily require significant build-out of electricity infrastructure, exacerbating existing wildfire risks and worsening wildfire impacts. These impacts will disproportionately affect low-income and disadvantaged communities.

In September 2021, Governor Newsom signed SB-456 into law, requiring the Wildfire and Forest Resilience Task Force to "develop a comprehensive implementation strategy to track and ensure the achievement of the goals and key actions identified in the state's 'Wildfire and Forest Resilience Action Plan' issued by the task force in January 2021."[79] The state has also dedicated substantial funding to Wildfire and Forest Resilience Early Action,[80] as well as fire prevention programs and projects targeted towards reducing GHG emissions caused by uncontrolled wildfires.[81]

Electric utility infrastructure poses a significant wildfire ignition risk that CARB has failed to assess, and that ACC II will exacerbate. The December 2020 Utility Wildfire Mitigation Strategy and Roadmap emphasized that climate change will amplify utility wildfire risks by increasing vegetation contact through invasive species and tree mortality[82] and increasing the size, scope, and frequency of wildfires, meaning that utilities will "operate in more high-risk areas going forward."[83] Utilities are already operating in areas facing extreme or elevated wildfire risk in both Northern and Southern California, and these risks "will almost certainly increase" in the future.[84]

Apart from ignition risks, overreliance on electrification, as required by ACC II, can amplify wildfire risks to electrical transmission and distribution assets throughout the state. Wildfire damages are generally very costly to repair—a 2018 CEC Report indicated that "[o]ver the 2000-2016 period, wildfire damages to the transmission and distribution system in selected areas exceeded $700 million," although "[t]otal wildfire damages to all sectors of the economy were much larger."[85] These damages can also increase generation costs and disrupt customer service.[86] Future wildfire risk is expected to significantly increase, exacerbating these existing challenges.[87] The CEC Report estimated that cost impacts of fires in a high-capacity utilization scenario would reach $92.6 million in the midcentury period.[88] Again, CARB must account for these increased costs in assessing the projected impacts of its proposed program.

CARB itself notes the increasing wildfire risks faced by the state in its ISOR: "California's annual wildfire extent has increased fivefold since the 1970s, and California's 2020 fire season alone shattered records, not only in the total amount of acres burned (at just over 4 million) but also in wildfire size, with 5 of the 6 largest wildfires in California history occurring in 2020."[89] However, CARB fails to account for any wildfire risks stemming from the electrification of the transportation sector, concluding that short-term construction-related and long-term operation related effects to wildfire would be "less than significant."[90] Instead,

CARB considers only perceived benefits to wildfire resilience based on the unproven ability to use ZEVs "to provide grid services and decentralized backup power for California residents" to mitigate disruptions.[91] Moreover, CARB overlooks the potential hazards faced by communities with an urgent need to evacuate from fires who may be stranded if they cannot charge their electric vehicles. CARB's analysis is entirely one-sided, assessing highly attenuated benefits while ignoring demonstrable costs based on extensive analyses by other California agencies.

Low-income communities are disproportionately burdened by wildfire impacts. According to a recent study analyzing wildfire impacts from 2010 to 2020, rural communities "sustained three times more wildfire on average"-- these communities exhibited significant environmental justice indicators, including "higher rates of poverty, unemployment, and vacant housing, as well as higher proportions of low-income residents and residents without college degrees."[92]

Likewise, environmental justice communities are most impacted by de-energization events—according to the CPUC's report, "[t]hese events have had massive implications for [environmental and social justice (ESJ)] communities, particularly low-income people in rural, high fire threat areas including people with access and functional needs."[93] The CPUC's 2022 Environmental and Social Justice Action Plan indicates that "electric utilities have used de-energization strategies more frequently to prevent ignition of wildfires by electric utility infrastructure."[94] Among the three largest utilities in California, data shows an average of 14 outages per year, impacting more than a million customers.[95] CARB must account for the impact of rapid electrification on wildfire risk and consider the communities that will bear them.

CARB does not have the authority to contravene express statutory mandates by omission. It must consider the potential for ACC II to increase wildfire risk and change course accordingly." (emph. orig., fn. omitted.)

Response: The Proposed Program does not prevent the actions necessitated under SB 456 by the Wildfire and Forest Resilience Task Force. While the Proposed Program will result in an increase in electrical demand from the electrification of the vehicle fleet, the Proposed Program cannot claim impacts from wildfire from faulty electrical infrastructure. CEQA does not require attempting to predict environmental impacts from development or infrastructure that does not meet code requirements or illegal actions.

The comment also notes that wildfire risk will become increasingly more prevalent as the effects of climate change are realized. A primary objective of the Proposed Program is to reduce the state's GHG emissions from the mobile source sector to mitigate the adverse consequences of anthropogenic climate change. Thus, through reducing the state's contribution to climate change, the Proposed Program would indirectly mitigate these potential impacts.

The Proposed Program acknowledges inequity in the state and considered equity through improving access to clean transportation and mobility options for low-income households

and communities most impacted by pollution, supports equity and environmental justice, and is key in achieving emission reductions. The Proposed Program helps reduce exposure to criteria pollution and toxic air contaminants in burdened communities and implements part of CARB's statewide strategy to address emission reduction goals in the Community Air Protection Program Blueprint. The significant pollution reductions from the Proposed Program as a whole, when accounting for cleaner ICEVs as well as ZEVs, would reduce exposure to vehicle pollution in communities throughout California, including in low-income and disadvantaged communities that are often disproportionately exposed to vehicular pollution. Further, the proposed ZEV assurance measures, discussed in Chapter III.D of the ISOR, would ensure these emissions benefits are realized and long-lasting, while supporting more reliable ZEVs in the used vehicle market, where the cost of ZEVs become more affordable to lower-income households. Staff have also proposed provisions, discussed in Chapter IX of the ISOR and at pages 7-8 of the public notice for the 15-Day changes, to encourage manufacturers to take actions that improve access to ZEVs for disadvantaged, low-income, and other frontline communities, including by investing in community car share programs, producing affordable ZEVs, and keeping used vehicles in California to support CARB's complementary equity incentive programs.

This comment also relates to the social impact of the Proposed Program. The Draft EA is not meant to address economic, social, or financial issues associated with the Proposed Program. Rather, the purpose of CEQA and the Draft EA is to fully analyze and mitigate the Proposed Program's potentially significant physical impacts on the environment. As such, comments related to social concerns and other non-environmental impacts are outside of the scope of the Draft EA and not addressed in this response to comments document. However, this comment is acknowledged for the record and has been reviewed by CARB staff prior to returning to the Board for final consideration. CARB staff will be responding to all comments received to date, including those received at the second Board Hearing, in the Final Statement of Reasons.

OP-161-7: The commenter states "**A.6 CARB does not adequately consider feasible alternatives or the full range of environmental impacts.**

CARB's Draft Environmental Analysis (EA) does not meet requirements under the California Environmental Quality Act (CEQA) because it (1) fails to consider low-carbon fuel and engine technologies as feasible alternatives and (2) ignores a number of potentially significant environmental impacts." (emph. orig.)

Response: Please refer to Response to Comment OP-141-7.

OP-161-8: The commenter states "**A.6.1 The EA must consider low-carbon fuel and engine technologies as alternatives.**

As mentioned, in its Draft EA, CARB has failed to consider further supporting the production of low-carbon fuel and engine technologies that can immediately reduce GHG emissions today as an alternative alongside, rather than in lieu of, mandating a certain amount of electric vehicles.[96] The Associations urge CARB to recognize the proven value of using a

diversified mix of other low-carbon technologies to achieve its GHG reduction goals. At the least, CARB should present a robust and scientifically credible alternatives analysis in its Final EA that compares the costs and benefits of using all feasible technologies to the costs and benefits of mandating 100% electric vehicles.

According to the Draft EA, the "primary objectives" of the ACC II Program include goals to "[m]aintain and continue reductions in emissions of GHGs beyond 2020" and "[c]omplement existing programs and plans to ensure, to the extent feasible, that activities undertaken pursuant to the measures complement, and do not interfere with, existing planning efforts to reduce GHG emissions, criteria pollutants, petroleum-based transportation fuels, and TAC emissions."[97] Low-carbon alternative fuel and engine technologies align with these primary objectives, and thus, CARB should consider how these technologies can achieve more immediate environmental benefits while mitigating any cost burdens the ACC II Program may impose, especially with regard to low-income communities. Indeed, not doing so would conflict and "interfere with[] existing planning efforts to reduce GHG emissions [and] criterial pollutants" under the LCFS and RFS.[98]" (emph. orig., fn. omitted.)

Response: Please refer to Master Response 3.

OP-161-9: The commenter states "In the ACC II rulemaking, CARB is required to consider a reasonable range of alternatives, including "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."[99] This aligns with the CEQA Guidelines, which also specify that CARB must consider a reasonable range of alternatives that "shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects."[100] The CEQA Guidelines define "feasible" as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors."[101] Specifically, when considering the feasibility of alternatives, the CEQA Guidelines provide the following factors to consider:

"economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, [and] jurisdictional boundaries."[102] (fn. omitted.)

Response: Please refer to Master Response 3.

OP-161-10: The commenter states "Importantly, CARB is prohibited from predetermining a particular method to narrow the alternatives it considers for achieving the agency's ultimate policy goals. When examining whether or not alternatives or particular features have been foreclosed by the agency, courts look "to the surrounding circumstances to determine whether, as a practical matter, the agency has committed itself to the project as a whole or to any particular features, so as to effectively preclude any alternatives or mitigation measures that CEQA would otherwise require to be considered."[103] By deeming ZEVs as the only acceptable technologies and hardly considering in this rulemaking how other low-carbon technologies could provide important near-term reductions in GHG emissions, CARB is

effectively predetermining the outcome of this proceeding. This predetermined outcome is not only arbitrary and capricious, but is also a violation of CARB's statutory obligations." (fn. omitted.)

Response: Please refer to Master Response 3.

OP-161-11: The commenter states "While increased electric vehicle adoption will be part of the energy mix to achieve California's GHG goals, it is impossible for this strategy alone to solve the issue of transportation emissions, especially in the short-term. Electric vehicles are simply too expensive for the majority of American families, and significant portions of California's population will rely on vehicles utilizing gasoline and diesel fuel for decades to come. A recent report by the Rhodium Group projects that, nationwide, where more than half of light-duty sales are electric by 2030 and nearly 90% are electric by 2035, 34% of transportation sector GHG emissions will still remain in 2050.[104] The report concludes that "low-GHG liquid fuels are needed to fill the remaining gap and achieve net-zero emissions in the transportation sector by mid-century."[105]

Low-carbon fuels like renewable diesel, ethanol and renewable gasoline are compatible with existing vehicle infrastructure. Such fuels are a commonsense solution to immediately reduce transportation GHG emissions without waiting for the time and expenses it will take to build out EV infrastructure. Additionally, unlike with electric vehicles, vehicle owners that use drop-in fuels such as renewable diesel or low carbon intensity gasoline do not have to face the high up-front cost to replace their current vehicles or the costs associated with locating and installing electric vehicle charging infrastructure.[106]" (fn. omitted.)

Response: The Proposed Program is a significant part of meeting California's GHG goals, but not the only one. The LCFS program is one example of another program that is also part of meeting California's GHG goals in the transportation sector. As ZEV costs decline consumers will be more and more likely to adopt those ZEV technologies. CARB's total cost of ownership (TCO) analysis in the ISOR showed that in almost every vehicle category ZEV costs would be below that of conventional ICE vehicles. The Draft EA, beginning on page 40, discusses the necessary charging infrastructure and related potential environmental impacts.

Please also refer to Master Response 3.

The remainder of this comment relates to aspects outside the scope of the Draft EA, therefore no response is required. However, this comment is acknowledged for the record and has been considered by CARB prior to final consideration.

OP-161-12: The commenter states "CEQA requires that the Draft EA and Final 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."[107] The Draft EA for the Proposed Regulation fails to consider the following potentially significant environmental impacts:" (fn. omitted.)

Response: This comment is introductory in nature. See the following responses for specifics.

OP-161-13: The commenter states "Regarding aesthetics, the Draft EA does not consider the unpleasing aesthetic of businesses that will close as a result of the Proposed Regulation. Because millions of businesses depend upon transportation as a factor, the ZEV mandate will likely result in the closure of not only gas stations, but many other kinds of businesses as well. This could cause many gas stations and buildings within the state to become unoccupied and fall into a state of disrepair."

Response: Please refer to Response to Comment OP-141-11.

OP-161-14: The commenter states "CARB does not consider how the Proposed Regulation could cause businesses to relocate to other states based on the proposal's harmful competitive impacts to California industries. The act of relocating to another state involves greenhouse gas emissions and other harmful pollutants from transportation, as well as the potential construction of new business sites. Such transportation and construction could also injure wildlife and impact overburdened communities."

Response: Please refer to Response to Comment OP-141-12 for a detailed response pertaining to economic leakage, the programmatic nature of the Draft EA, and the specific page numbers where potentially significant biological impacts are disclosed in the Draft EA.

OP-161-15: The commenter states ""CARB does not consider how California residents will likely drive to other states to purchase more affordable, traditional vehicles, significantly increasing the number of out-of-state vehicle purchases. This will result in additional greenhouse gas emissions and other harmful pollutants, which also pose a threat to wildlife and overburdened communities."

Response: Please refer to Response to Comment OP-141-13 for a summary of the programmatic nature of the Draft EA and for specific page numbers where potentially significant impacts to wildlife are disclosed in the Draft EA.

OP-161-16: The commenter states "CARB does not consider how, because the Proposed Regulation will likely increase vehicle costs. As a result, many Californians may choose to keep their cars for longer than they otherwise would have, thereby forgoing opportunities to replace their aging vehicles with more efficient models. This would also result in additional greenhouse gas emissions and criteria pollutants, compared to existing regulatory requirements."

Response: Please refer to Response to Comment OP-141-14.

OP-161-17: The commenter states "CARB does not adequately 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. The construction of these facilities, as well as the use of additional gas facilities to meet demand, will have environmental impacts, including impacts on biological resources and increased greenhouse gas emissions and criteria pollutants."

Response: Please refer to Response to Comment OP-141-15 for a detailed response pertaining to the use of natural gas infrastructure. Please also refer to OP-141-12 for a response regarding the programmatic nature of the Draft EA, and the specific page numbers where potentially significant biological impacts are disclosed in the Draft EA.

OP-161-18: The commenter states "CARB does not consider how the negative economic impact of this Proposed Regulation on the petroleum industry could result in the abandonment of carbon capture, utilization, and storage technology already being developed, thereby increasing greenhouse gas emissions by eliminating opportunities to mitigate these emissions."

Response: Please refer to Response to Comment OP-141-16.

OP-161-19: The commenter states "CARB does not consider how requiring ZEVs will necessitate accessible residential charging stations, which will drive up the costs of housing in the state and could result in housing displacement."

Response: Please refer to Response to Comment OP-141-17.

OP-161-20: The commenter states "CARB does not consider the cumulative effects of the factors mentioned above that could result in greenhouse gas emission and other criteria pollutant increases."

Response: Please refer to Response to Comment OP-141-21.

OP-161-21: The commenter states "WSPA and AFPM ask that CARB fully consider and provide mitigation measures for these factors, as it must do under CEQA. Notably, supporting low-carbon fuels and engine technologies could be a potential mitigation measure, as demonstrated by the previous subsection.[108]" (fn. omitted.)

Response: Please refer to Response to Comment OP-141-22.

OP-161-22: The commenter states "**B.2 The justification for not including an alternative analysis for "Low-Carbon Fuel Technology in lieu of ZEV Requirements" due to the inability to enforce low-carbon fueling is contradicted by the mechanisms included in the current Low Carbon Fuel Standard (LCFS).**

While CARB states that they considered a low-carbon fuel technology alternative to the proposed ACC II, they rejected this alternative without analysis by claiming that this type of performance-based regulation would not be "verifiable or enforceable".[120] The conclusion appears without foundation given that CARB presently administers the LCFS program, which contains established mechanisms for verification and enforcement for such a performance-based alternative. CARB acknowledges that a low-carbon fuel technology alternative may reduce GHG emissions in the near to mid-term but fails to perform an environmental or benefit-cost analyses as required by the California Environmental Quality Act (CEQA), to assist with the process of identifying the environmentally superior alternative.

California has led the nation in the use of lower-CI fuels through its LCFS regulation, which relies on market-based mechanisms that deliver sustainable GHG emission reductions without a technology-based mandate. Further, the LCFS is poised to drive further reductions in carbon intensity through market incentives that will produce opportunities for carbon capture and sequestration and numerous novel low-carbon fuel pathways. CARB Executive Officer Richard W. Corey described the LCFS program as "catalyzing investments in these cleaner alternative fuels, providing consumers with more choices, and reducing emissions of toxic pollutants and greenhouse gases."[121] The assertion that there is an inability to enforce low-carbon fueling discredits all the progress that the LCFS program has made over the past 10 years and is simply incorrect. CARB has claimed leadership in this space, encouraging billions of dollars of investments in developing low-carbon fuel solutions for the California market. Before arbitrarily declaring that the program is unenforceable, CARB must give serious and robust consideration to the LCFS as an alternative approach.

By employing market-based approaches instead of instituting zero emission technology mandates, CARB would allow for innovation within existing marketplaces to dramatically reduce GHG emissions without the systemic risks associated with the ZEV-centric approach concerning electric/hydrogen infrastructure development, zero emission technology readiness, and cost." (emph. orig., fn. omitted.)

Response: A Low-Carbon Fuel Technology alternative was considered, but ultimately rejected because it failed to meet most of the project objectives, it did not avoid a significant environmental impact including requisite criteria pollutant emissions reductions, and it was deemed infeasible.

Please also refer to Master Response 3.

OP-161-23: The commenter states "**B.3 CARB did not conduct a full life cycle greenhouse gas (GHG) emissions analysis for the vehicle/fuel system to assess GHG emission impacts of their proposal and alternatives, and thus have under-represented the full emissions impact of the regulation.**

The current ACC II proposal does not consider the life cycle emissions for "zero emission" vehicles, assess GHG emissions leakage outside of the state of California that would be caused by the ACC II proposal, or include a technology-neutral analysis of alternatives that could meet the GHG reduction goals. Simply put, the ACC II proposal focuses on a complete transition to zero-emission vehicle (ZEV) without consideration of other vehicle technologies or a future role for renewable fuels.[122] In the ISOR analysis, there were several stages of the emissions assessment that were excluded. The pieces of life cycle GHG emissions that were excluded from the analysis include:

- Upstream fuel cycle GHG emissions from out-of-state fuel production and transportation activities for California reformulated gasoline (CaRFG) and hydrogen (H2), and

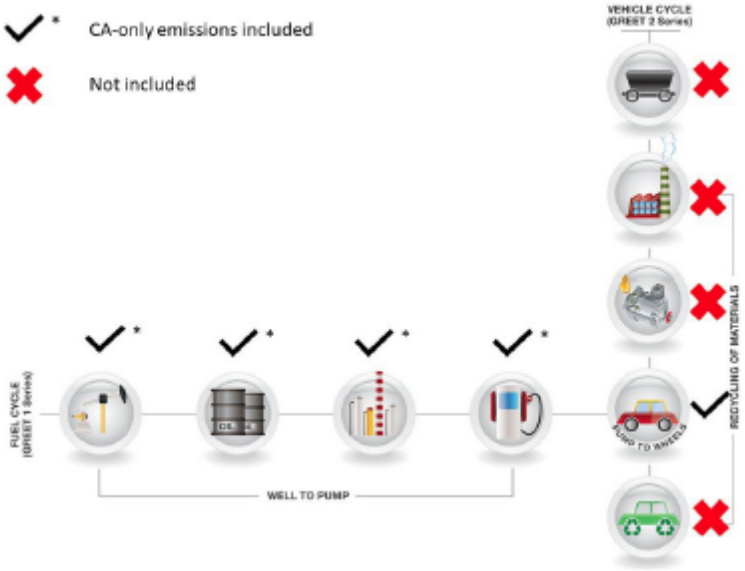
- GHG emissions associated with vehicle production changes required by the proposed regulation; this could be significant particularly for minerals extraction and processing and

battery production, transportation, and disposal impacts for battery electric vehicles (BEVs) that are not part of the baseline for internal combustion engine vehicles (ICEVs).

Figure B-2 below outlines the scope of the CARB ACC II emissions assessment and shows what components were included/considered and what was noticeably missing from the ISOR analysis. This figure was adapted from the GREET website and shows the components that make up a comprehensive vehicle life cycle assessment.

CARB has claimed that only in-state emissions for fuels were included due to an AB 32 emission boundary at state lines. However, this boundary is a regulatory-based line that is not representative of the actual behaviour of GHG emissions. GHG emissions are global pollutants that enter the atmospheric carbon stock and cause global consequences, no matter the point of origin. CARB must assess the full life cycle emissions associated with this regulation, regardless of location of the emission. Any assessment that does not recognize these impacts misrepresents the actual environmental effects of the proposed regulation and would lead to factually incorrect conclusions that undermine any rationale for adoption of the proposed rule.

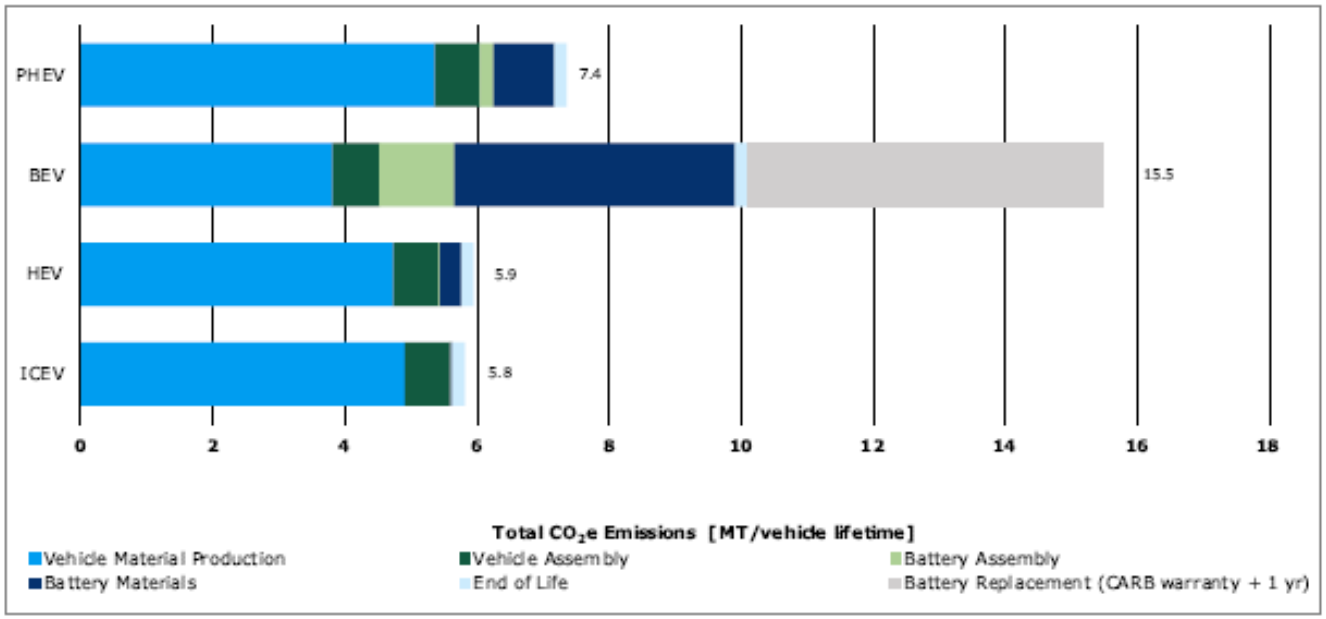
Figure B-2. CARB ACC II Emissions Assessment Scope[123]



Ramboll conducted an analysis of California's light-duty auto (LDA) fleet to evaluate whether alternative vehicle technology and fuel pathways could achieve life cycle GHG emission reductions similar or greater than the ACC II proposal ("Ramboll LDA Study", included in Attachment D). Unlike the ISOR analysis, Ramboll has evaluated the full life cycle impacts of ZEV technologies under the ACC II proposal to more completely characterize the potential near-term and long-term GHG emissions performance and consider other pathways that would not require a replacement of the entire transportation infrastructure system.

Vehicle cycle emissions[124] were not considered in the ISOR analysis but should be included due to the large differences in these emissions between ZEVs and ICEVs. The Ramboll LDA Study found that the vehicle cycle emissions for a model year 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 Figure B-3). If the BEV undergoes a battery replacement during its lifetime, its vehicle cycle emissions increase to 15.5 MT CO_2e 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, must be included in the ISOR emission analysis to fully understand the impacts of the proposed ACC II regulation.

Figure B-3: Vehicle Cycle GHG Emission Factors for Different Vehicle Technologies



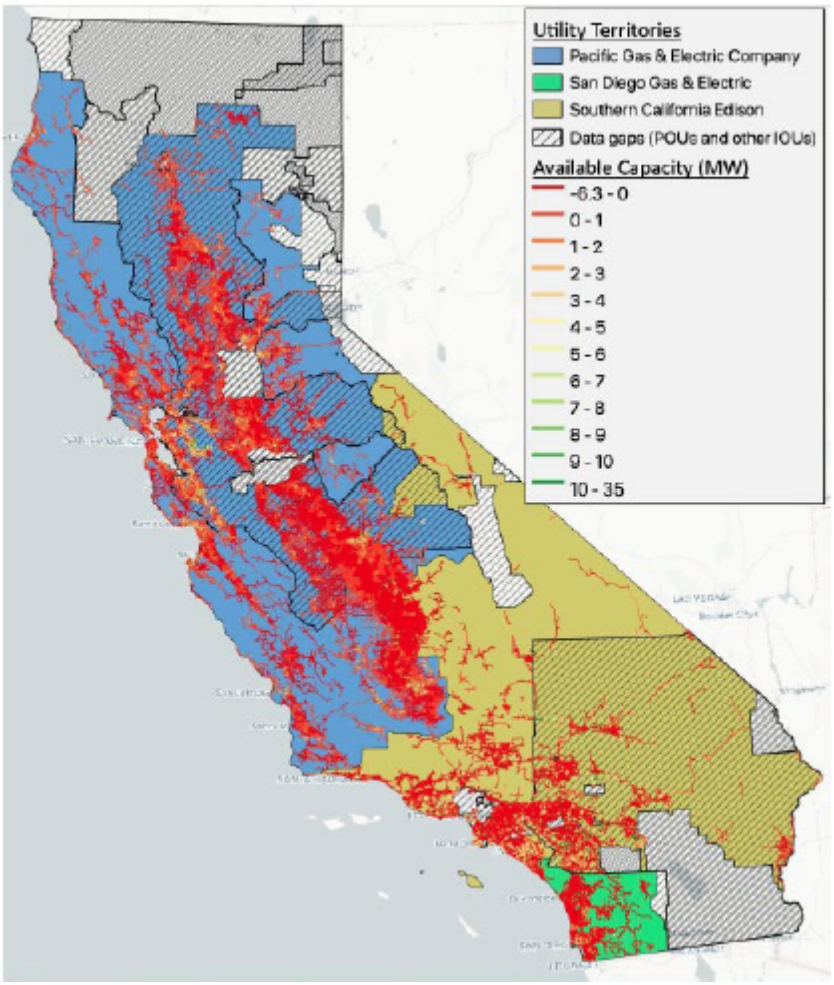
(emph. orig., fn. omitted.)

Response: Please refer to Master Response 4.

OP-161-24: The commenter states "**B.4 CARB does not discuss the potential impact to the California electric grid from this regulation including requirements for new and upgraded generation, transmission, and distribution.**

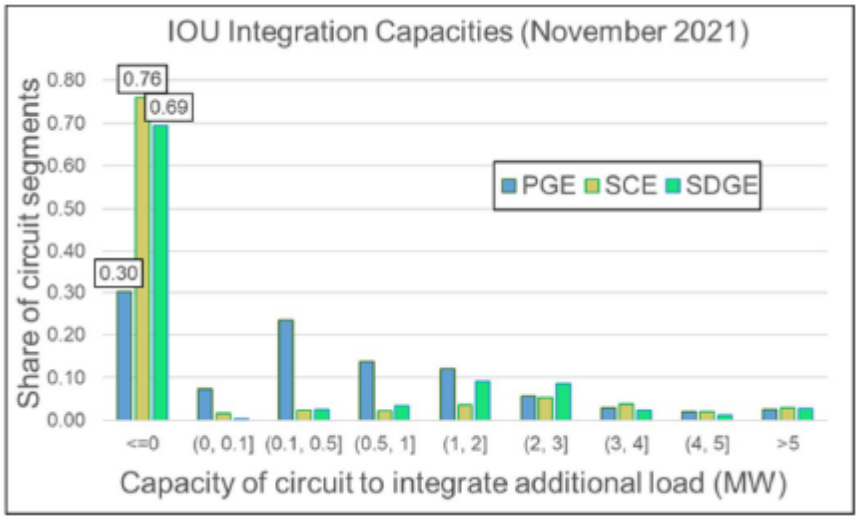
CARB has not provided any analysis of the feasibility of the proposed regulation given the significant increase of charging infrastructure, electrical generation and transmission and distribution infrastructure that would be required to support a ZEV fleet. The Capacity Analysis from CEC's EDGE Model (**Figure B-4** below, obtained from Page 48 in the Draft EA125) shows the grid has no additional capacity to add electrical load for charging for most of these circuits. You can see this in numerical terms in **Figure B-5** (obtained from Virtual Medium and

Figure B-4: Capacity Analysis from CEC's EDGE Model[126] (dark red indicates no available additional capacity)



Heavy-Duty Infrastructure Workgroup Meeting - Electricity and the Grid on January 12, 2022[127]), which details the capacity of circuits to integrate additional load. This figure illustrates that 30% to 76% of circuit segments have no capacity to integrate additional load. Thus, no appreciable charging capacity can be added to most of these circuits without the expenditure and time for additional construction of needed transmission and distribution infrastructure.

CARB has cited growth in the electric utilities sector and noted that new infrastructure will be needed to support this transition, however, they have failed to account for the costs of the infrastructure needed for this regulation in the SRIA,[128] and have instead ascribed benefits to the electric utilities sector for job growth. This is misleading, and CARB must evaluate the full economic impact to electric utilities as a result of this regulation rather than just account for the benefits while ignoring the required costs associated with this transition.



"

(emph. orig., fn. omitted.)

Response: Please refer to Master Response 1.

The remainder of this comment relates to aspects outside the scope of the Draft EA, therefore no response is required. However, this comment is acknowledged for the record and has been considered by CARB prior to final consideration.

OP-161-25: The commenter states "**B.5 The proposed ACC II strategy will place further stress on California's strained electric infrastructure and does not address measures to ensure stability and reliability of the grid during public safety power shut-off (PSPS) events.**

There have been increasing number of PSPS events in California over the last five years, due in large part to an aging electrical transmission and distribution infrastructure that utility companies in California have neglected to maintain in order to reduce their costs and increase profits.[130] In 2019, PG&E explained to the California Public Utilities Commission (CPUC) that it would take 10 years to decrease PSPS event severity significantly,[131] and this does not include all the additional upgrades that will now be needed as a result of the requirements in the proposed ACC II regulation. The proposed ZEV strategy may leave California particularly vulnerable to PSPS events, which would eliminate the ability to recharge ZEVs. CARB claims that vehicle-to-grid (V2G) technology would help solve PSPS event issues, but this is assuming that a consumer would consent to feeding their electricity back into their house without knowledge of when the power would be restored. Electrical grid upgrades are needed to prevent PSPS events and increase the stability and reliability of the electric vehicle charging infrastructure. This is an issue unique to electricity as a fuel and must be analyzed. Meanwhile, the Renewable Portfolio Standard (RPS) mandates increased reliance on renewable power sources such as solar and wind, which has already posed challenges to the reliability of the California electrical grid. CARB must consider the impacts of rolling blackouts, higher utility costs, destabilization of industrial operations, and other

foreseeable consequences of shifting significant additional power demand onto the grid." (emph. orig., fn. omitted.)

Response: Please refer to Master Response 1.

The remainder of this comment relates to aspects outside the scope of the Draft EA, therefore no response is required. However, this comment is acknowledged for the record and has been considered by CARB prior to final consideration.

OP-161-26: The commenter states "**B.8 CARB erroneously claims that because the proposed program will divert energy from fossil fuel-powered systems to an increasingly renewable electrical system, the regulation will not result in a significant cumulative impact related to energy, grossly oversimplifies the efforts that will be required to achieve this transition.**

CARB appears to be arguing that a unit of energy is fungible regardless of its source (i.e., from the electrical grid or from liquid fuels) and that because the net consumption of energy for fueling will decrease as a result of this transition, the overall impacts to the energy sector will be less than significant. This assumption is fundamentally flawed because these two energy systems (the electrical grid and liquid fuels) are wholly independent.

The challenges associated with increasing the supply in the electrical grid will include complications of mismatched renewable energy supply and demand (i.e., duck curve), upgrading the grid infrastructure (generation, storage, transmission, and distribution) to accommodate increased electric vehicle charging.

The renewable energy supply versus demand curve (i.e., duck curve) is one example of a barrier that is unique to renewable energy that will need to be considered during the transition to electric vehicles alongside the transition to 100% renewable grid electricity. California has abundant solar energy generated during the day when demand is low and lower supply of renewable energy at night paired with higher demand when residents will want to charge their electric vehicles and power other appliances once they get home from work. This imbalance calls for advanced efforts to plan EV charging events and make improvements to the grid infrastructure to accommodate the increased demand at off-peak hours. Based on the ACC II SRIA, residential charging is projected to be the second cheapest form of charging an electric vehicle battery for the foreseeable future.[139] Electric utilities will have to work with EV users to implement smart charging measures that do not exacerbate the duck curve. This planning may include increasing investment in energy storage devices that can be used to supply power at off-peak periods (I.e., night-time) when BEV users will charge their cars.

This proposed regulation will require an increase in electrical consumption on the scale of terawatt-hours (TWh's) on an annual basis. The impacts of this increased demand to the State's electrical generation, distribution, and transmission systems must be analyzed. CARB cannot assert without evidence that renewable energy would be available for the increased demand for electrical generation without impacts to the existing grid infrastructure.

The ISOR assumption that the regulation will not have a significant cumulative impact related to energy does not consider the factors described above that will generate additional stress on the electric grid. The challenges that renewable electricity presents must be analyzed, and there is no credible basis to assume that there will be no cumulative impact to energy as a result of this transition to ZEVs.

Additionally, CARB has not considered any alternatives that minimize the number of stranded liquid fuel infrastructure assets or addressed the economic impact of these stranded assets that will result by the adoption of the ACC II proposal. If this regulation were to consider a technology-neutral approach, there could be potential for existing liquid fuels infrastructure to be converted from carrying fossil fuels to renewable fuels. This has already been demonstrated by the conversion of some refineries to renewable fuel facilities.[140] There are over 14 refineries currently located in California and the total input capacity is more than 1.7 million barrels per day.[141] The liquid fuel network in California is already extensive and fully built out to scale. Hence using this existing network for the production and distribution of renewable fuels presents a lower risk scenario compared to an unprecedented rate of electrical grid infrastructure development on which the implementation of the current ACC II proposal would require." (emph. orig., fn. omitted.)

Response: As described in the Draft EA on page 160, implementation of the Proposed Program could require construction and operation of new or modified facilities or infrastructure as well as increased lithium mining. While these would require the consumption of energy resources, these actions would enable the transition to zero-emission technologies to comply with provisions of the Proposed Program and would not involve the wasteful or inefficient use of energy. Furthermore, while energy demand would increase during construction of future projects in response to implementation of the Proposed Program, these energy expenditures would be necessary to facilitate the actions that would result in environmental benefits such as reduced air pollution and GHG emissions. Therefore, short-term energy consumption would not be considered unnecessary. Use of ZEV and PHEVs would also divert energy from fossil fuel-powered systems and engines to electrical systems, which, as mandated by the renewable portfolio standard, will become increasingly more renewable in the coming years. Arguably, using alternative fuels combined with an increasingly more renewable energy grid, would improve the efficiency of energy usage across the State.

CARB acknowledges that implementation of the Proposed Program will increase demand on the electrical system; however, the Appendix G questions do not identify an increase in electrical demand as a cause for a potentially significant impact. Appendix G indicates that a project would have a significant energy effect if it were to result in environmental impact from the wasteful, inefficient, or unnecessary consumption of energy or if a project would conflict with a renewable resources or energy efficiency plan. Implementation of the Proposed Program is a necessary effort undertaken by the state to reduce its contribution of GHGs that exacerbate climate change. This increase in electricity consumption as a result of reduced reliance on fossil fuels is not, therefore, a wasteful, inefficient, or unnecessary trade off. Moreover, Appendix F of the State CEQA Guidelines states that projects that reduce reliance on fossil fuels would avoid potentially adverse energy impacts, which would directly

occur from the deployment of ZEVs and PHEVs under the Proposed Program. The cumulative environment of the Proposed Program extends to the boundaries of the state, and is inherently cumulative as the Proposed Program's effectiveness would be facilitated by coordination among state and local agencies beyond CARB including CEC and regional MPOs. Thus, the Proposed Program would not create a cumulatively considerable energy impact.

With respect to generation of electricity to meet expected demand from ZEVs, CARB describes in the Final EA the expected responses to increased electrical demand from the Proposed Program and acknowledges the impacts. *See c*h. 2.D.1.(b)(vi); ch.4.B.19. CARB acknowledges these impacts in the Impact Analysis Findings and Statement of Overriding Considerations that the impacts from these responses by electric utilities and service systems to the Proposed Program would be potentially significant and unavoidable and create a cumulatively considerable contribution to a significant cumulative impact.

Please also refer to Master Responses 1 and 2.

The remainder of this comment relates to aspects outside the scope of the Draft EA, therefore no response is required. However, this comment is acknowledged for the record and has been considered by CARB prior to final consideration.

OP-161-27: The commenter states "**B.11 CARB has not demonstrated that ZEVs will meet the long-distance use cases of customers, and therefore has not demonstrated that this regulation will achieve the claimed GHG emission reductions.**

The ISOR analysis has not definitively shown that BEVs will be used as a one-to-one replacement for ICEVs, which may lead to a use case that has not been addressed in the environmental assessment as currently written. The Stillwater Study[144] on Possible Market Implications of California's Efforts to Ban ICEs states that ZEVs are expected to provide only 65-95 percent of the vehicle miles travelled by their gasoline counterpart. The Study also notes that ICEVs would be typically used for infrequent long-distance trips which contribute to a majority of the GHG emissions, because today's long-range ZEVs with supercharger recharging add significantly more travel time on long trips.

While BEV ranges have continued to improve, the charging times have still lagged, and consumers may continue to use ICEVs for long-range range trips even past 2035 while they still own these vehicles if battery and charging technology do not improve significantly. CARB must consider a technology-neutral alternative, which could allow liquid fuel alternatives that would meet a performance-based standard. This could allow a phase-in of low-carbon drop-in replacement fuels that could be used in an ICEV, PHEV or HEV, thus generating near- and long-term GHG reductions for long-range applications." (emph, orig., fn. omitted.)

Response: The Proposed Program allows for different ZEV technologies to meet the needs of consumers including BEVs with varying all-electric ranges, PHEVs, and FCEVs. Some consumers are currently using BEVs for long trips and all their vehicle travel needs, demonstrating the technology's ability to meet those needs. As batteries continue to

improve and manufacturers implement better management systems and strategies for fast charging, charging times continue to come down. A 2022 model year Hyundai Ioniq 5 can charge from 10 to 80% in as little as 18 minutes replacing over 200 miles of range. For those that require the shortest refueling times, FCEVs and PHEVs will still be available under the Proposed Program which shows significant GHG reductions relative to the BAU case.

OP-161-28: The commenter states "**B.13 CARB has provided no foundation for the conclusion that the Proposed Program "would not result in a cumulatively considerable contribution to a significant cumulant impact related to mineral resources."**

CARB has not assessed the amount of mineral resources that would be required for this regulation, and therefore has no factual basis to conclude that the impact "would be generally small when viewed in the context of global lithium markets."[145] Nor has CARB developed the factual record needed to conclude that other mineral resources needed to meet ACC II are adequate.

The findings of the 2021 International Energy Agency's report titled *The Role of Critical World Energy Outlook Special Report Minerals in Clean Energy Transitions*,[146] indicate that a typical electric car would require six times the amount of mineral inputs compared to a conventional vehicle. This report also stated that the rapid deployment of clean energy technologies (including EVs) would result in a significant impact on mineral resources, and that there are currently not enough of these resources available to meet this demand.

CARB must provide a basis for their significance argument, including but not limited to an estimate of the minerals required to manufacture the ZEVs mandated by this proposed regulation, the potential strain on global mineral resources, and impacts to the global supply chains for lithium, cobalt, nickel, and other critical minerals. The assessment should include sensitivity analysis to determine how costs and availability may be affected by mineral scarcity and global supply chain disruptions.

While CARB did not provide mineral resource estimates for the proposed regulation, CARB does provide an estimate for the projected annual increase in battery production in Table 4 of the Draft EA.[147] These projections show an annual increase in battery production, ranging from 43.2 gigawatt-hours (GWh) in 2026 to 150.8 GWh in 2035. The recently released Assembly Bill (AB) 2832 Lithium-ion Car Battery Recycling Advisory Group Final Report cites that over 60 GWh of Li-ion battery capacity has been deployed in the US EV market from 2010-2020.[148] In the current proposal, CARB expects that two-thirds of this capacity that was deployed over the last decade, would be made available during the first year of the rule implementation. CARB also projects that the annual battery production capacity would continue to increase into the future reaching levels that are two and a half times the production capacity deployed in the last decade. This unprecedented ramp-up in battery production capacity which in turn would lead to a similar ramp up of mineral extraction cannot be ignored. CARB must first analyze and evaluate these impacts before rushing to conclude that they are "not significant"." (emph. orig., fn. omitted.)

Response: Please refer to Master Response 2.

The remainder of this comment relates to aspects outside the scope of the Draft EA, therefore no response is required. However, this comment is acknowledged for the record and has been considered by CARB prior to final consideration.

OP-161-29: The commenter states "**B.14 The ISOR assertion that no new facilities will be required to manufacture ZEVs is likely not representative of reality. The manufacturing process of ZEVs greatly differs from that of ICEVs and will require dedicated facilities outside of the existing ICEV manufacturing facilities.**

CARB has failed to fully address the additional resources and facilities that will be needed to ramp up electric vehicle production to meet the proposed state zero-emission vehicle mandate. CARB has stated that they assume that existing vehicle manufacturing facilities will be able to meet the growing demand for ZEVs, but this assumption fails to account for the differences in the manufacturing processes between ICEVs and ZEVs.

As CARB describes in the Draft EA, Lithium-ion (Li-ion) batteries can pose a potential risk if damaged, exposed to a fire or a heat source, or poorly packaged.[149] This risk will need to be mitigated through additional measures, which could include additional training of facility operators, emergency responders, and manufacturing personnel and additional design measures added to vehicle manufacturing facilities. The assumptions that no new facilities will be required assumes that all these upgrades can take place at existing ICEV manufacturing facilities. This assumption is made without any factual basis. CARB must consult with existing ICEV and ZEV manufacturers to understand the differences in the manufacturing processes and use this information to assess and evaluate the environmental and economic impacts associated with the conversion of ICEV manufacturing facilities to ZEV manufacturing facilities." (emph. orig., fn. omitted.)

Response: As noted in the Draft EA, implementation of the proposed ACC II Regulations would result in an increase in manufacturing of ZEVs and PHEVs, along with a corresponding decrease in the manufacturing and deployment of gasoline fueled vehicles. The Proposed Program is not expected to create an overall change in total vehicle production. While the manufacturing for vehicles may largely be met by existing facilities, increased demand for lithium-ion batteries would increase battery production and manufacture, resulting in the expansion of or construction of new battery manufacturing facilities to supply batteries for the vehicles. Several examples of manufacturers converting existing ICEV production facilities to ZEV and PHEVs already exist. Tesla converted the NUMMI plant in Fremont, California, after purchasing it in 2010. Rivian more recently converted a plant in Normal, Illinois, previously owned by Mitsubishi, to produce its battery electric R1T, R1S, and commercial van products. GM is converting its Detroit-Hamtramck plant, which was originally built in 1985, to what GM is now calling Factory ZERO where it will manufacturer the battery electric GMC

Hummer truck and SUV, the Chevrolet Silverado electric pickup truck, and the battery electric Cruise Origin.[60, 61]

OP-161-30: The commenter states "**B.15 The ISOR misrepresents potential impacts to public services, utilities, and service systems.**

CARB must comprehensively address the full potential of impacts to public services, utilities, and service systems to understand the potential environmental and economic impacts this regulation will have, including the potential impact on the State's GHG reduction goals as well as its criteria pollutant emissions goals. Increased use of high-capacity battery storage and high-voltage upgrades to the grid's electrical distribution and transmission infrastructure may lead to increased risk of wildfires, which would have an impact on fire response and other emergency services. CARB recognized that the increased reliance on the electrical grid and increase in infrastructure needed could lead to increased risk of wildfire ignition, but they have failed to fully account for the environmental effects of this impact and impacts on public services such as CAL FIRE. According to a letter by the California State Auditor, 19% of CAL FIRE-reported acres burned from 2019-2020 were caused by electrical power. [150] A scale-up of the grid in response to the ZEV mandate could have detrimental effects on public services that support fire-suppression and wildfire response. These impacts may be significant. A January 2021 study by Stanford researchers modelling the effects of wildfires on ambient air quality indicated that the contribution of wildfire smoke to $PM_{2.5}$ concentrations currently accounts for up to half of the overall $PM_{2.5}$ exposures in western regions of the United States.151 CARB must perform a full economic and emissions analysis of the potential impacts of increased wildfire risk as a result of the proposed ACC II regulation." (emph. orig., fn. omitted.)

Response: Impacts to public services, utilities and service systems, and wildfire are disclosed on pages 131–132, 140–143, and 143–145 of the Draft EA, respectively. The Proposed Program would not directly result in increased wildfire risk, as discussed in Master Response 1. While the Proposed Program will result in an increase in electrical demand from the electrification of the vehicle fleet, the Proposed Program cannot claim impacts from wildfire from faulty electrical infrastructure. CEQA does not require attempting to predict environmental impacts from development or infrastructure that does not meet code requirements or illegal actions. Wildfire risk is becoming more pronounced. Future wildfires and the public services demanded to cope with these events would not occur directly from implementation of the Proposed Program. No edits to the Draft EA are required in response to this comment. No further response is required.

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[60] Denham, Ryan. 2020. $750 Million: Rivian's Investment at Normal Manufacturing Plant. WGLT NPR from Illinois State University. February 13. Accessed July 12, 2022. https://www.wglt.org/business-and-economy/2020-02-13/750-million-rivians-investment-at-normal-manufacturing-plant.

[61] General Motors. 2022. Factory ZERO, Our First Fully Dedicated EV Assembly Plant. Accessed July 12, 2022 https://www.gm.com/stories/factory-zero-first-dedicated-ev-plant.

OP-161-31: The commenter states "4. CARB must clarify and expand the scope of the Environmental Analysis (EA) to ensure that all indirect and unintentional impacts from this rule are being considered, as required under CEQA.

a. Note: CARB claims that the upstream emissions of electricity generation will be accounted for in the analysis, but has not yet published the analysis"

Response: Tables 11 through 13 of the Draft EA summarize the combined emissions benefits associated with upstream fuel production and vehicle emissions (i.e., well-to-wheel). These impacts were also discussed extensively in the Initial Statement of Reasons (see p. 146, et seq.), Appendix D, Emissions Inventory Methods and Results for the Proposed Amendment, and the SRIA. Given the potentially large impacts of the Proposed Program upon transportation fuels as a result of its scope and ambition, an upstream fuels discussion was deemed appropriate in this case with caveats and transparency as to its assumptions provided in Appendix D of the ISOR. Separate policy, regulatory, or industry actions, such as changing import/export balance decisions at refineries, could cause different results. A complete policy portfolio of both technology and upstream regulations would affect the ultimate outcome.

In response to the comment regarding the scope of the Draft EA, CEQA Guidelines section 15151 states that "[d]isagreement among experts does not make an EIR inadequate, but the EIR should summarize the main point of disagreement among the experts. The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure." The Draft EA provides a good-faith effort to evaluate programmatically the potential for significant adverse impacts associated with implementation of the Proposed Program based on what is known at this time. In Section 2.0, "Project Description," the Draft EA provides an overview of the project objectives, concepts of the Proposed Program, and outlines the potential compliance responses that could occur because of implementation of the recommended actions. As described in the last paragraph on page 2 of the Draft EA, "[t]he level of detail of impact analysis is necessarily and appropriately general because the Proposed Program is programmatic." The reasonably foreseeable compliance responses are analyzed in a programmatic manner for several reasons: (1) any individual action or activity would be carried out under the same program; (2) the reasonably foreseeable compliance response would result in generally similar environmental effects that can be mitigated in similar ways (Cal. Code Regs., tit.14, § 15168 (a)(4)); and (3) while the types of foreseeable compliance responses can be reasonably predicted, the specific location, design, and setting of the potential actions are unknown at this time. The Proposed Program, by design, is flexible.

CEQA is clear that an indirect impact should be considered only if it is a reasonably foreseeable impact caused by the project. (Cal. Code Regs., tit. 14, §§ 15064(d)(3), 15358(a)(2).) An environmental impact that is speculative or unlikely to occur is not reasonably foreseeable. (Cal. Code Regs., tit. 14 § 15064(d)(3).) Attempting to predict decisions by regulated entities that may oversee construction or operation of facilities or infrastructure built as compliance responses to the actions included in the Proposed Program is inherently speculative, as these actions involve extensive decision-making processes. As a

result, CARB's CEQA analysis covers all reasonably foreseeable activities, and avoids engaging in speculation about what specific actions may occur at specific locations.

The Draft EA makes a good faith effort to disclose the potentially adverse environmental impacts of the reasonably foreseeable compliance responses under the Proposed Program and satisfies CARB's legal requirements under it certified regulatory program. The Draft EA is intended to be programmatic. No further response is required.

The remainder of the comments submitted relate to aspects outside the scope of the Draft EA, therefore no response is required. However, these comments are acknowledged for the record and have been considered by CARB prior to final consideration.

Comment Letter OP-165

5/31/2022 Todd Sanders
California Apple Commission

OP-165-1: The commentor states "Forcing farmers to utilize equipment that is heavily reliant on the grid for transportation will ultimately increase energy usage and raise the cost of food to pay for increased costs associated with higher rates of energy consumption."

Response: Please refer to Master Response 1.

The remainder of the comments submitted relate to aspects outside the scope of the Draft EA, therefore no response is required. However, these comments are acknowledged for the record and have been considered by CARB prior to final consideration.

C. Responses to First 15-Day Comments

On July 12, 2022, CARB released a Notice of Public Availability of Modified Text and Additional Documents, pursuant to Government Code section 11347.1, proposing to modify the regulatory text as well as add additional references to the rulemaking record, and providing a comment period of at least 15 days (First 15-Day Notice). During this comment period, CARB received two comment letters that purported to raise environmental issues related to the Proposed Program. These comments do not concern modifications proposed in the First 15-Day Notice. Because the comments are not directed at the modifications made available for comment during the First 15-day Comment period, the APA does not require a response. (Gov. Code, § 11347.1(d).) Further, the 45-day CEQA comment period started on April 12, 2022, and ended on May 31, 2022, so comments related to the Proposed Program's environmental impacts were submitted after the 45-day CEQA comment period and are untimely and do not require a response. (17 Cal. Code Regs., § 60004.2(b)(2).)

Nevertheless, while it is not required to do so, CARB provides the responses below for transparency.

Many of the environmental comments submitted during the First 15-Day comment period were previously submitted during the 45-day comment period, and CARB provided comprehensive responses in the Response to Comments on the Draft Environmental Analysis. To the extent those comments have already been addressed, responses will refer to answers already provided by CARB staff.

Comment Letter 15-5

7/28/2022 Peter Treydte
Specialty Equipment Market Association

15-5-1: The commentor states "As noted in the letter submitted by the Western States Petroleum Association (WSPA), et al., the ACC II does not adequately consider the life cycle emissions of vehicles and fuels to ensure that sufficient greenhouse gas (GHG) emissions reductions are achieved by the light-duty transportation sector. WSPA commissioned a study (Ramboll) showing that the vehicle life-cycle emissions for a model year 2026 BEV could be significantly higher than an ICEV meeting 2026 emissions standards. SEMA believes that, before this regulation is adopted, further analysis of the full emissions impacts of BEVs should be analyzed and reviewed by CARB to determine if, when factoring upstream and downstream emissions impacts, BEVs have less of an emissions impact than ICEVs."

Response: The comments submitted are outside the scope of the 15-day comment period and were not timely submitted during the noticed 45-day CEQA comment period. However, for transparency CARB staff provide the following response:

Please refer to Master Response 4.

The remainder of the comments submitted relate to aspects outside the scope of the Draft EA, therefore no response is required. However, these comments are acknowledged for the record and have been considered by CARB prior to final consideration.

Comment Letter 15-23

7/28/2022 James E. Enstrom, PhD, MPH, FFACE
Retired UCLA Research Professor (Epidemiology) President, Scientific Integrity Institute

15-23-1: The commenter states "I understand that CARB Staff is obligated to respond to all public comments, including my comment. Please post and send me your response to the 7 documents in my comment. All these documents are relevant to the ACC II and the Scoping Plan Update."

Response: The comments submitted are outside the scope of the 15-day comment period and were not timely submitted during the noticed 45-day CEQA comment period. However, for transparency CARB staff provide the following response:

This comment letter was submitted to the docket for the 15-day period for the Advanced Clean Car II rulemaking (Proposed Program). Despite this, the letter states it is responding to two projects: the Proposed Program and the draft 2022 Climate Change Scoping Plan Update (2022 Scoping Plan). The response to comments on the Proposed Program need only respond to those comments about the impacts related to the Proposed Program, and the 2022 Scoping Plan is a separate proposal with a separate administrative record outside the scope of the Proposed Program. Any comments about the 2022 Scoping Plan do not require a response here.

The comment letter does not provide a comment itself. Rather, it attaches 7 letters purportedly published about the *West Virginia v. EPA* lawsuit or drafted and submitted as comments on other projects under consideration either by CARB or by federal agencies. One letter does reference the Proposed Program, however, none of the letters specifically address the amendments proposed during the 15-day comment period for the Proposed Program. To the extent a comment letter does not address impacts raised by the Proposed Program, no response is required.

The 45-day comment period under CEQA for the Proposed Program closed prior to the 15-day comment period, therefore a response to environmental concerns raised during the 15-day comment period is not required. Despite this, to the extent the comment letter raises environmental concerns of the Proposed Program, CARB will provide a response as a courtesy.

15-23-2: The commenter states "June 8, 2022 California Business Coalition Letter Opposing CARB Climate Change Scoping Plan and Advanced Clean Cars II (AAC [sic] II) Regulations"…..

- "ACC II and the Scoping Plan will have major implications for businesses and individuals in California, including:… Worsening our electric grid reliability by pushing electrification without the infrastructure in place, thus increasing the likelihood of power outages."

Response: The comments submitted are outside the scope of the 15-day comment period and were not timely submitted during the noticed 45-day CEQA comment period. However, for transparency CARB staff provide the following response:

The first attachment provided on page 1 is a letter titled "June 8, 2022 California Business Coalition Letter Opposing CARB Climate Change Scoping Plan and Advanced Clean Cars II (AAC [sic] II) Regulations." Though the letter is dated June 8, 2022, it was not submitted as a comment for the Proposed Program's 45-day comment period docket, and it does not address any of the concerns raised by the 15-day changes proposed for the Proposed Program. Therefore, no response is required for CEQA purposes. However, for the purposes of full disclosure, please refer to Master Response 1 which addresses environmental impacts of utility infrastructure related to the Proposed Program.

The remainder of the comments submitted relate to aspects outside the scope of the Draft EA, therefore no response is required. However, these comments are acknowledged for the record and have been considered by CARB prior to final consideration.

D. Responses to Second 15-Day Comments

On August 8, 2022, CARB released a Second Notice of Public Availability of Additional Documents, pursuant to Government Code section 11347.1, proposing to add additional references to the rulemaking record, and providing a comment period of at least 15 days (Second 15-Day Notice). Staff did not propose any modifications to the regulatory text as part of this Second 15-Day Notice, and thus the Proposed Program was unchanged. During the comment period for these additional documents, CARB received two comment letters that purported to raise environmental issues related to the Proposed Program. These comments do not concern the material proposed in the Second 15-Day Notice. Because the comments are not directed at the documents made available for comment during the Second 15-day Comment period, the APA does not require a response. (Gov. Code, § 11347.1(d).) Further, the 45-day CEQA comment period started on April 12, 2022, and ended on May 31, 2022, so comments related to the Proposed Program's environmental impacts were submitted after the 45-day CEQA comment period and are untimely and do not require a response. (17 Cal. Code Regs., § 60004.2(b)(2).)

Nevertheless, while it is not required to do so, CARB provides the responses below for transparency.

Many of the environmental comments submitted during the Second 15-Day comment period were previously submitted during the 45-day comment period, and CARB provided comprehensive responses in the Response to Comments on the Draft Environmental Analysis. To the extent those comments have already been addressed, responses will refer to answers already provided by CARB staff.

Comment Letter S-15-2

8/16/2022 Jennifer Hernandez
The Two Hundred for Homeownership

S-15-2-1: The commenter states "ACC II will worsen, not improve, local air quality and global GHG emissions ……. Reducing GHG is intended to combat global climate change, but, as CARB has itself acknowledged, GHG inventory emissions that occur within California's borders (as measured by CARB) comprise less than 1% of global anthropogenic emissions. These emissions can cease to exist entirely ("carbon neutrality") and global climate change outcomes will remain unchanged. Even if other states adopt California's internal combustion engine ban, global climate change outcomes will remain unchanged. What will certainty [sic] occur, however, is that instead of assuring the continued improvement of the fleet CARB will have created our own Havana, where higher emitting GHG cars are kept alive for decades to allow working families to continue to work and live, and more cost-efficient GHG technologies are stymied by CARB's top-down 2022 technology diktat [sic]."

Response: The comments submitted are outside the scope of the 15-day comment period and were not timely submitted during the noticed 45-day CEQA comment period. However, for transparency CARB staff provide the following response:

This comment does not raise issue with the adequacy of the analysis supporting the Proposed Program, including the CEQA analysis. Rather, the comment generally questions whether the Proposed Program will improve local air quality and whether the reductions of GHG from the Proposed Program are significant enough to impact climate change.

A primary objective of the Proposed Program is to reduce mobile source emissions of criteria air pollutants and toxic air contaminants to improve air quality. As explained on page 82 of the Draft EA, the Proposed Program is projected to reduce NOx emissions by 69,569 tons and $PM_{2.5}$ by 4,469 tons by 2040 in California. As explained on page 104 of the Draft EA and 141 of the ISOR, staff expects the proposed regulation to reduce cumulative well-to-wheel GHG emissions by an estimated 383.5 MMT of CO_2 relative to the baseline from 2026 to 2040. Further, CARB staff measured the Proposed Program's GHG reductions and future impacts as it relates to climate change, as explained on page 15 of the ISOR:

The benefit of these GHG emission reductions can be estimated using the social cost of carbon (SC-CO_2), which provides a dollar valuation of the damages caused by one ton of carbon pollution and represents the monetary benefit today of reducing carbon emissions in the future. The avoided SC-CO_2 from 2026 to 2040 is the sum of the annual well-to-tank (WTT)[19] and tank-to-wheel (TTW) GHG emissions reductions multiplied by the SC-CO2 in each year. The cumulative well-to-wheel (WTW) GHG emissions reductions along with the estimated benefits range from about $10.9 billion to $46.0 billion through 2040, depending on the chosen discount rate. The net result of these analyses shows the proposed regulation delivers a cumulative net benefit to California of $80.7 billion and has a benefit-cost ratio of 1.38, meaning benefits are more than costs between 2026 and 2040. [fn. omitted.]

The commenter also argues that even with the Proposed Program and all other climate-focused efforts in California, "global climate change outcomes will remain unchanged". This line of argument is both wrong (incremental GHG reductions do improve climate outcomes) and deeply harmful to California's communities. Climate change is inherently a cumulative problem.[62] As such, it must be addressed cumulatively, and each state must do its part. It is nonsensical to argue that a climate action (particularly one as meaningful as the Proposed Program) should not be taken because the action does not solve the entire global climate change problem. This argument could similarly be used to advocate against measures to protect a local community from harmful air pollutants because some amount of pollutants would still remain after the reductions. But it has been rejected when considering measures to combat climate change.[63]

Further, contrary to the commenter's unfounded assertions, the Proposed Program does not ban ICEVs from being driven or owned; the Proposed Program will increase the new vehicle sales requirements to 100 percent plug-in hybrid electric vehicles and ZEVs by 2035 in California. New and used ICEVs may continue to be sold in California before this date. Starting in 2035, used ICEVs may still be purchased in California or imported from out of state, assuming the cars may be registered in accordance with regulatory requirements enforced by the Department of Motor Vehicles. (See response to comment OP-141-13.) Moreover, the demand for ZEVs and PHEVs is growing and, as the vehicles and batteries become cheaper, these vehicle types are better able to meet a wider variety of transportation needs, and charging continues to become more widely available. Prospective buyers will be more and more likely over time to choose the vehicles that are both cheaper to own and operate (see, e.g., ISOR pages 153-155), and meet the emissions requirements of the Proposed Program. (See ISOR pages 14 and 20-21). As a result, it is not reasonably foreseeable that the Proposed Program would lead to retention of older ICE vehicles.

Please also see Responses to OP-103-1, 141-1, 161-6.

To the extent this comment relates to economic impacts, such impacts are outside the scope of the Draft EA.

S-15-2-2: The commenter states "ACC II is a regulation, and as such is subject to, but has failed to comply with the requirements of:…… The California Environmental Quality Act ("CEQA") (Pub. Res. Code § 21000 et seq.) which requires an assessment of ALL reasonably foreseeable direct, indirect and cumulative environmental impacts of the regulation."

Response: The comments submitted are outside the scope of the 15-day comment period and were not timely submitted during the noticed 45-day CEQA comment period. However, for transparency CARB staff provide the following response:

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[62] *See, e.g.,* CEQA Guidelines, Cal. Code Reg. tit. 14, § 15064.4(b); *Ctr. for Biological Diversity v. Dep't of Fish & Wildlife* (2016) 62 Cal. 4th 204, 219-220.
[63] *Massachusetts v. EPA* 127 S.Ct. 1438, 1442 (2007).

CARB disagrees with the commenter's claim. Staff completed a robust analysis of all reasonably foreseeable direct, indirect, and cumulative environmental impacts of the Proposed Program as required under CARB's Certified Regulatory Program and CEQA. The commenter does not specify any specific deficiencies in that analysis included in the Draft EA, therefore no further response is required.

S-15-2-3: The commenter states: "Based on the trajectory of vehicular tailpipe emission reductions achieved by 2016 as shown in the Figure (above), and ongoing continued fleet-level vehicular efficiencies from petroleum, hydrogen, and EV vehicles, and the extremely perverse and racist CARB metric of assuming that people and jobs that leave California result in GHG "reductions" that address climate change instead of what actually happens (increased global GHG from higher per capita states and countries), CARB's CEQA compliance failures are staggering in scope."

Response: The comments submitted are outside the scope of the 15-day comment period and were not timely submitted during the noticed 45-day CEQA comment period. However, for transparency CARB staff provide the following response:

CARB disagrees with the commenter's claims. The commenter makes a statement about CARB's failure to comply with CEQA, but does not provide any specific evidence to support this claim. As such, no additional response is required.

Furthermore, the commenter does not explain or substantiate their claim about counting departing Californians toward the State's climate goals. CARB disagrees with this claim. The comment does not provide evidence that job losses in California due to the Proposed Program will necessarily materialize as job creation in other states or that it will result in migration to other states, causing emissions to "leak" or increase in other states. To the extent such impacts may occur, they are speculative where there is insufficient information to predict job creation or migration. Similarly, the commenter does not explain their suggestion that CARB somehow counts departing California residents as overall cumulative GHG reductions; CARB disagrees with this claim as well. Moreover, any such activity, even if germane, is not at the core of CARB's emission analysis, which documents the deep emissions cuts resulting from the program's changes to vehicles.

Finally, the comment included a figure labeled "Vehicle Emissions vs. Miles Traveled" which purports to show annual, nationwide vehicle miles traveled and "VOC emissions" reductions between 1970 to 2030. The commenter purports the information in this chart was "reported by President Obama's EPA in 2016," but did not include a citation or reference to support this material with substantial evidence for CARB to consider. CARB disagrees with the commenter's claim that this figure indicates any CEQA noncompliance or lack of justification for the Proposed Program. VOCs, or volatile organic compounds, are one kind of tailpipe and evaporative emission from vehicles and do not speak to the NOx, $PM_{2.5}$, and GHG emissions achieved by the Proposed Program. This chart is not relevant to the analysis of air emissions impacts in the EA and does not require a response.

The remainder of this comment relates to aspects outside the scope of the Proposed Program and/or outside of the scope of the Draft EA of the Proposed Program, therefore no response is required.

S-15-2-4: The commenter states "Construction-phase impacts of massive EV charging infrastructure installations, as well as substation and distribution equipment improvements required to bring far more power into each home, and transmission and generation expansions at an even larger scale, are obvious and clear consequences of ACC II implementation that are ignored."

Response: The comments submitted are outside the scope of the 15-day comment period and were not timely submitted during the noticed 45-day CEQA comment period. However, for transparency CARB staff provide the following response:

Impacts to public services and utilities and service systems are analyzed and disclosed on pages 131–132 and 140–143 of the Draft EA, respectively. As analyzed specifically in the Utilities and Services section and throughout the Draft EA, CARB anticipates the increased deployment of ZEVs as a result of the Proposed Program will lead to increased energy demand and require new or modified electric utility installation, connections, and expansions. The Draft EA also analyzes the impacts of potential construction that could foreseeably develop as a result of the Proposed Program, including under the Air Quality, Biological Resources, Cultural Resources, Geology and Soils, Noise and Vibrations, and Tribal Cultural Resources, among others.

Please refer to Master Response 1 and the response to OP-141-15

S-15-2-5: The commenter states "The comments filed by The 200 on the Draft 2022 Scoping Plan, which include detailed CEQA comments and the CEQA violations described in the 2017 Scoping Plan lawsuit, are hereby incorporated into this ACC II comment letter."

Response: The comments submitted are outside the scope of the 15-day comment period and were not timely submitted during the noticed 45-day CEQA comment period. However, for transparency CARB staff provide the following response:

This comment purports to incorporate previous comments filed by The 200 on the Draft 2022 Scoping Plan as well as claims raised in a lawsuit filed in 2018 challenging the 2017 Scoping Plan.

The Proposed Program was a regulatory concept among a range of other proposed measures in the 2017 Scoping Plan and was not fully developed and analyzed until this rulemaking. CARB drafted the analysis of this rulemaking several years after the 2017 Scoping Plan. The Environmental Impact Analysis prepared for the Proposed Program is a project-specific environmental analysis newly prepared for the Proposed Program; it does not tier from the 2017 Scoping Plan Environmental Analysis. Furthermore, the commenter's lengthy litigation complaint pertains to claimed housing equity issues concerning the 2017

Scoping Plan, which is a statewide plan for addressing climate change. The commenter does not indicate which claims from this complaint are relevant to the new Proposed Program, which relates to emissions standards for light-duty vehicles. The litigation does not relate to the analysis of the Proposed Program, and no response is required.

CARB reviewed the comment letters submitted by the commenter on the comment docket for the current Draft 2022 Scoping Plan and identified several comments, identified below as comments S-15-2-6 – S-15-2-11, that raise environmental issues related to the Proposed Program. The remainder of the comments submitted by the commenter on the current Draft 2022 Scoping Plan relate to aspects outside the scope of the Proposed Program, therefore no response is required.

S-15-2-6: As submitted in the comment letter on the Draft 2022 Scoping Plan, the commenter states "CARB's failure to acknowledge the life-cycle carbon emissions from a radical vehicular fleet shift is another fatal flaw in the Scoping Plan and related appendices. DMV reports that California has more than 34 million registered vehicles (https://www.dmv.ca.gov/portal/newsand-media/dmv-statistics/), only 663,000 were EVs. Even when hybrids (which still include internal combustion engines) are also counted, only about a million cars in California's fleet are not exclusively powered by internal combustion engines as of February 2022. https://www.greencarreports.com/news/1135176_california-one-million-plug-in-ev-sales-fivemillion-by-2030"

Response: The comments submitted are outside the scope of the 15-day comment period and were not timely submitted during the noticed 45-day CEQA comment period. However, for transparency CARB staff provide the following response:

The commenter appears to overlook that the Proposed Program involves new vehicle sales requirements. It does not eliminate or ban ICEV from California, and there is no fleet turnover mandate. Rather, as explained in Chapter 2 of the EA, the Proposed Program will increase the new vehicle sales requirements to 100 percent plug-in hybrid electric vehicles and ZEVs by 2035 in California. Disposal of any portion of vehicles would be subject to and must comply with existing laws and regulations governing solid and hazardous waste, such as California's Hazardous Waste Control laws (Health & Safety Code, Division 20, Chapter 6.5; Title 22 CCR, Division 4.5), and implementing regulations, such as California's Universal Waste Rule (Title 22 CCR Division 4.5, Chapter 23). As a result, there is not a reasonably foreseeable increase in ICEV disposal as a result of the Proposed Program.

Please also refer to Master Response 4.

S-15-2-7: As submitted in the comment letter on the Draft 2022 Scoping Plan, the commenter states "The CARB Scoping Plan EA does not acknowledge the massive solid and hazardous wastes created by the planned elimination of internal combustion vehicles, or the massive global GHG emissions (ranging from mining to mineral processing to fabrication to manufacturing to shipping) of the batteries and other components required to produce a replacement all-electric fleet. CARB acknowledges job losses among car mechanics, but not

the massive environmental impacts of a radical fleet turnover mandate. These are not speculative impacts: impacts from trashing cars are well known, and waste volumes increase when engine parts can no longer be recovered and reused with the internal combustion phase-out. Cars are about 1500 tons each; trashing 35 million cars creates waste volumes of over 52 million tons. Where does this waste end up, and how does it get there? Many of these wastes are hazardous if not properly handled; the EA includes no analysis of the capacity of waste management facilities to cope with this massive influx of inert and partly hazardous waste."

Response: The comments submitted are outside the scope of the 15-day comment period and were not timely submitted during the noticed 45-day CEQA comment period. However, for transparency CARB staff provide the following response:

This comment was submitted as part of a comment on the Scoping Plan and appears to be referring to the disposal of ICEVs after they reach the end of their useful lives. The commenter appears to overlook that the Proposed Program involves new vehicle sales requirements. It does not eliminate or ban ICEVs from California, and there is no fleet turnover mandate. Rather, as explained in Chapter 2 of the EA, the Proposed Program will increase the new vehicle sales requirements to 100 percent plug-in hybrid electric vehicles and ZEVs by 2035 as a percentage of total sales in California. New ICEVs may still be sold in California until that time, as specified in the regulation. The Proposed Program does not mandate turnover or scrappage of in-use vehicles. Even after 2035, used ICEVs or ICEV parts may still be purchased in California or imported from out of state, assuming the cars may be registered in accordance with regulatory requirements enforced by the Department of Motor Vehicles. Disposal of any portion of vehicles would be subject to and must comply with existing laws and regulations governing solid and hazardous waste, such as California's Hazardous Waste Control laws (Health & Safety Code, Division 20, Chapter 6.5; Title 22 CCR, Division 4.5), and implementing regulations, such as California's Universal Waste Rule (Title 22 CCR Division 4.5, Chapter 23). Moreover, the Proposed Program is not predicted to increase overall vehicle sales, and thus is not predicted to increase the total number of vehicles that will ultimately be discarded. As a result, there is not a reasonably foreseeable increase in ICEV disposal as a result of the Proposed Program.

S-15-2-8: As submitted in the comment letter on the Draft 2022 Scoping Plan, the commenter states "ACC II will accelerate electrification of the transportation sector, requiring significant infrastructure buildout to both support increased electricity demand and to facilitate deployment of ZEVs. The CPUC estimates that meeting additional demand alone will require an investment of $49 billion in resource buildout, impacting electricity rates. CEC Staff Analysis indicates that both commercial and residential electricity prices will continue to rise, reaching over $8/gasoline gallon equivalent ("GGE") by 2026 for the residential sector and nearly $7/GGE for the commercial sector. Comparatively, natural gas will remain around $3/diesel gallon equivalent through 2030. In its Environmental and Social Justice Action Plan, the CPUC "acknowledges that increased rates place a large burden on ESJ communities," noting that "as California transitions to a cleaner grid, the risk of a smaller number of households, likely lower income households who cannot afford to upgrade their existing

household appliances to energy efficient and/or all electric, becoming increasingly financially responsible for maintaining legacy infrastructure." Before CARB finalizes ACC II, the state must have comprehensive measures in place to protect low-income communities from carrying the primary burdens of climate change measures. Otherwise, at the expense of low-income communities, the ultimate beneficiaries of ACC II will be out-of-state power providers and the electric utilities themselves. To reduce the disparate impacts of costs on those who can least afford it, the rule must not unfairly advantage technologies, which are realistically accessible only for wealthier and more urban populations, at the expense of rural and lower-income consumers, who must subsidize those costs in the form of higher prices paid to fuel their vehicles and longer commutes."

Response: The comments submitted are outside the scope of the 15-day comment period and were not timely submitted during the noticed 45-day CEQA comment period. However, for transparency CARB staff provide the following response:

Please refer to Master Response 1.

The comment also relates to the cost of infrastructure and electricity supply. The Draft EA is not meant to address economic, social, or financial issues associated with the Proposed Program. Rather, the purpose of CEQA and the Draft EA is to fully analyze and mitigate the Proposed Program's potentially significant physical impacts on the environment. As such, comments related to policy concerns asserted here are outside of the scope of the Draft EA and not addressed in this response to comments document.

S-15-2-9: As submitted in the comment letter on the Draft 2022 Scoping Plan, the commenter states "as electric vehicles increase, this will result in a significant reduction in the demand for vehicle fuels that gas stations sell, causing many to shut down. This will result in fewer gas fueling stations for owners of traditional vehicles, who are more likely to be low income, and will cause such vehicle owners to drive farther in order to find fuel. Boston Consulting Group has estimated that if electric vehicles take off rapidly, this could render as much as 80% of the fuel retail market unprofitable by 2035. If demand for gasoline completely disappeared, many of the more than 100,000 gas stations through the nation would be at risk of going out of business. Importantly, these gas stations will not be able to compete by simply installing electric vehicle charging stations, as such stations can be installed in the parking lots of practically any business. Concerningly, Stillwater Associates predicts that the ACC II proposed regulation will reduce gasoline sales by 66% by 2035, and by 90% by 2050; likewise, diesel sales could fall by 34% by 2035, and by 60% by 2050. Low-income rural areas will be particularly negatively impacted, as these areas are places where people already are more likely to drive longer distances in general, and these places also likely to already have fewer gas stations when compared to urban areas. Aware of the significant ongoing demand for petroleum products, ACC II's attempt to phase out critical refining production is irresponsible and threatens to leave millions of Californians without transportation fuel."

Response: The comments submitted are outside the scope of the 15-day comment period and were not timely submitted during the noticed 45-day CEQA comment period. However, for transparency CARB staff provide the following response:

Please refer to Response to OP-141-11.

As stated above, the remainder of this comment relates to aspects outside the scope of the Proposed Program and/or the scope of environmental impacts required for review under CEQA, therefore no response is required.

S-15-2-10: As submitted in the comment letter on the Draft 2022 Scoping Plan, the commenter states "California Environmental Quality Act (CEQA) Guidelines also specify that CARB must consider a reasonable range of alternatives, which "shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects."

Response: The comments submitted are outside the scope of the 15-day comment period and were not timely submitted during the noticed 45-day CEQA comment period. However, for transparency CARB staff provide the following response:

Please refer to Master Response 3, OP-121-1.

S-15-2-11: As submitted in the comment letter on the Draft 2022 Scoping Plan, the commenter states "CARB's ACC II Program undermines achievement of these California-centric emissions reduction goals by allowing vehicle manufacturers to comply with in-state ZEV sales mandates by pooling ZEV and PHEV values from different states. CARB's proposal requires manufacturers to meet an increasing percentage of new vehicle sales in California as ZEVs and PHEVs, where compliance is measured by assigning vehicle "values" for each vehicle produced that meets certain minimum technical requirements.48 However, the proposal also includes a purported "flexibility" mechanism, "allowing all manufacturers to transfer or 'pool' excess ZEVs and PHEVs earned in California or individual Section 177 States to meet a shortfall in any given model year (or a deficit carried forward from a previous model year) elsewhere."49 Manufacturers can meet up to 25% of their annual compliance obligations in model year 2026 by relying on pooling, with this percentage declining by 5% for subsequent model years.50 In the ISOR, CARB explains that "allowing manufacturers to use pooled ZEV and PHEV values would help them manage year to year fluctuations in annual vehicle volumes especially across different states and still allow for full compliance," emphasizing that, under this approach, "market demand for ZEVs will increase and costs will tend to decline faster than they otherwise would."

However, CARB's proposed pooling approach is utterly inconsistent with its obligations to maximize in-state emissions reductions and undermines the purported efficacy of its ZEV regulations. CARB has repeatedly emphasized that its ZEV sales mandate is essential for meeting in-state emissions reductions goals— "Transitioning to zero-emission technology for every on- and off-road mobile sector is essential for meeting near- and long-term emission

reduction goals mandated by statute, with regard to both ambient air quality and climate requirements." The pooling program sacrifices in-state emissions reductions from ZEV sales and interferes with state attainment goals by allowing manufacturers to meet a substantial portion of their compliance obligations out of state. Many of the Section 177 states where pooling would be available are located across the country, where increased ZEV sales would have no impact on California's air quality. Out of state sales do nothing to further California ambient air quality standards or short-lived climate pollutant reduction strategies."

Response: The comments submitted are outside the scope of the 15-day comment period and were not timely submitted during the noticed 45-day CEQA comment period. However, for transparency CARB staff provide the following response:

Please refer to response to comment OP-121-4.

As previously stated, outside of the six comments responded to above, the remainder of the comments submitted for the 2022 Scoping Plan (inclusive of the 2017 lawsuit) relate to aspects outside the scope of the Proposed Program. No further response is required for all other aspects of the 2022 Scoping Plan comment letters purportedly incorporated into this comment letter on the Proposed Program.

The remainder of the comments submitted by this commenter relate to aspects outside the scope of the Draft EA, therefore no response is required. However, these comments are acknowledged for the record and have been considered by CARB prior to final consideration.

Comment Letter S-15-3

8/20/2022 Thomas Becker
T. Becker Power Systems

S-15-3-1: The commenter states: "Alternatives to the proposed regulation were submitted to CARB in a timely manner. Those alternatives, if implemented, would achieve reductions in atmospheric 'pollutants' far greater that the reductions achievable by the proposed regulations. If the proposed alternatives were implemented in lieu of the proposed ACC II regulation, the reduction in atmospheric 'pollutants' would be so great that the entire California EPA motor vehicle emission waiver system would no longer be required. CARB staff is required by CEQA to analyze all environmentally superior alternatives submitted for the proposed ACC II regulation, and CARB staff is required to compare the environmental benefits of the proposed alternatives to the environmental benefits of the proposed regulation. It would be unlawful for EPA to grant a waiver to California for the ACC II regulation if the state failed to analyze environmentally superior alternatives to the proposed regulation, or the state prepared a misleading/fraudulent analysis."

Response: The comments submitted are outside the scope of the 15-day comment period and were not timely submitted during the noticed 45-day CEQA comment period. However, for transparency CARB staff provide the following response:

The commenter claims that an environmentally superior alternative was submitted to CARB in a timely manner; however, the commenter does not provide reference to this specific alternative. They then imply that CARB did not analyze all environmentally superior alternatives as required by CEQA again providing no evidence for these claims. CARB staff did complete a robust alternatives analysis disclosing a reasonable range of alternatives in the EA (see page 173). CARB staff complied with all alternatives analysis requirements as included in CARB's Certified Regulatory Program and CEQA.

Please also refer to Master Response 3.

The remainder of this comment relates to aspects outside the scope of the Draft EA, therefore no response is required. However, these comments are acknowledged for the record and have been considered by CARB prior to final consideration.