June 22, 2022

Liane M. Randolph, Chair
California Air Resources Board
1001 I Street
P.O. Box 2815
Sacramento, CA 95812

RE: Comment Letter on Draft 2022 Scoping Plan Update

Dear Chair Randolph:

I am writing to provide comments from the Bay Area Air Quality Management District (Air District) on the Draft 2022 Scoping Plan Update (Plan). This document aims to provide a "technologically feasible, cost-effective and equity-focused" roadmap for how California will achieve its climate goals to reduce statewide greenhouse gas (GHG) emissions by 40 percent by 2030 and achieve carbon neutrality by 2045 or sooner. We applaud you and your staff for the tremendous thought and effort behind the Plan, particularly the analyses to extend the previous Scoping Plans into the future to meet the challenge of limiting the effects of climate change.

Climate science underscores the importance of meeting the state's climate goals, as demonstrated in the most recent IPCC reports. The world must reach carbon neutrality by mid-century at the latest in order to limit global warming to 1.5°C and avoid the worst effects of climate change. Without immediate and significant emissions reductions this decade, this goal will be unattainable. As the world's fifth largest economy and a leader in combatting the climate crisis, California has a key role to play in moving the state and country towards a zero-carbon emissions economy while maximizing the resulting health and economic benefits for all residents, especially those in overburdened communities. The Air District recognizes the instrumental role of the Plan in advancing California's leadership, shaping California's future, and addressing climate change.

Notwithstanding the impressive work and important objectives reflected in the Plan, there are opportunities to strengthen the Plan, which we discuss below. Our recommendations focus on three broad priorities – achieving aggressive, bold action on reducing GHG emissions, doing so while maximizing positive impacts on equity and environmental justice, and increasing the transparency of the technical aspects of the Plan (e.g., assumptions, uncertainties, and technical analyses).

Environmental Justice

The Air District strongly supports prioritizing equity for overburdened communities in the Plan. These communities bear the brunt of fossil fuel dependence and are often the first to experience climate impacts. Through the Air District's implementation of AB 617, we have worked directly with community groups in West Oakland, East Oakland, Richmond-San Pablo, and elsewhere to empower communities, monitor local pollution, and reduce air pollution in overburdened

communities. As such, we appreciate the stated focus in the Plan on "ensuring the transition to a zero-emission economy is an affordable one and does not further disadvantage low-income communities and communities of color." Indeed, the equity goal should go beyond no further harm to these communities and create a path whereby they benefit from the transition, including through improved quality of life and increased access to opportunity.

We recognize the Environmental Justice Advisory Committee's (EJAC) commitment to providing recommendations that could shape the Plan. While the Plan incorporated several of the EJAC's recommendations, the Air District feels compelled to highlight key equity-related concerns.

Alternative 1 Warrants Additional Consideration

Of the Plan's various alternatives, Alternative 1 sets the appropriate aggressive tone, incorporates more EJAC recommendations, and focuses work on reducing pollution in overburdened communities. By rejecting Alternative 1 as too costly, the Plan misses an opportunity to provide analysis and engage in discussion on a just transition that incorporates a vision for addressing the job and economic impacts of a clean energy future. Furthermore, the Plan asserts high uncertainty for Alternative 1 due to the "highest pace of clean energy and technology deployment and adoption," relying largely on existing technologies while not fully recognizing the large uncertainties in the other alternatives associated with their reliance on developing carbon removal technologies.

We encourage California Air Resources Board (CARB) staff to add context for their analysis of Alternative 1; greater transparency in the underlying analyses informing CARB's conclusion that many aspects of Alternative 1 are not economically feasible would help communities understand and respond to CARB's concerns about Alternative 1's economic costs. Without more detailed information, it is difficult for stakeholders to identify and recommend which elements of Alternative 1 should be incorporated into the Proposed Scenario. Alternative 1's focus on a just transition would further reduce the need for a separate focus on carbon capture technologies that involve major, potentially life-extending, investments in fossil fuel infrastructure which carries a disparate impact on EJ communities throughout the state.

Procedural Justice Concerns

Procedural justice is foundational to environmentally just decision-making and outcomes. During the development of the Plan, the EJAC raised several procedural concerns, including: a need for additional time for meaningful review and consideration of materials, greater inclusion of California's Indigenous communities, and more time for direct input and meaningful feedback from California's EJ communities. The Plan would benefit from more accessible language and a clearer roadmap in the Executive Summary, which would make the content more digestible and easier to navigate for non-practitioners and help communities across the state engage and provide feedback. We also suggest that CARB consider issuing a shorter, more digestible version of the Final Scoping Plan once adopted that is more accessible to the public to encourage broader use**.**

The Air District supports the EJAC's recommendation that the EJAC remain a permanent, standing body of CARB so that their critical work can continue year-round, and so that many of these concerns can be addressed. This would also facilitate a closer partnership between CARB, the EJAC, and communities in the implementation of the Plan, which we recommend focuses on

"co-creating" solutions. The Air District has found success in such partnerships, as well as co-creation of solutions, in its work with communities through the AB 617 process.

Addressing Cumulative and Synergistic Impacts

Environmental justice communities across the state have voiced concern over the cumulative impacts of multiple emissions sources, but the Plan misses an opportunity to address cumulative impacts, particularly in the planning and permitting processes. The Plan provides an opportunity to bring forward a statewide discussion on cumulative impacts, land use decision-making, and the impacts on EJ communities. The Plan should discuss the ways in which cumulative and synergistic impacts of multiple emissions sources should be addressed in the planning and permitting process to avoid inflicting additional harm on EJ communities.

The Plan relies on the CalEnviroScreen 4.0 (CES) tool to identify disadvantaged communities for investing cap-and-trade revenues and it applies CES in its health analysis. The Air District reiterates our previous comments to CARB and CalEPA concerning the appropriateness of using the top 25 percent of CES 4.0 to identify disadvantaged or overburdened communities. While this approach may be useful for comparing Bay Area communities with one another, it is not adequate to identify communities in need of assistance in the Bay Area when compared to the state as a whole.

Air District Partnerships

The Air District recognizes the dedicated work that CARB staff is undertaking to engage with EJ organizations. As a local agency with strong connections to EJ organizations and leaders, the Air District can collaborate with CARB staff and EJAC members seeking to engage with communities and provide space for meaningful feedback and input that can better inform the Plan and future work. As this instrumental work continues to shape California's future, we encourage greater partnerships and collaboration between our agencies to support this work.

The Air District recommends identifying other key stakeholders for successful implementation of various aspects of the Plan and their potential roles. This is done generally at the end of the document but could be more specific and stronger throughout.

Analysis of Health-Related Impacts

The Air District welcomes the Plan's discussion about the disproportionate burden on specific communities from climate-related health impacts and systemic racism as a social determinant of health inequities. We recognize that successful and equitable climate action must address these realities and injustices. We also appreciate the detailed discussion across a wide range of health impacts of climate change, which are projected to increase due to a warming climate in California.

The results of the Plan's quantitative analysis reveal health-related trade-offs in selecting the longer timeline to carbon neutrality in the Proposed Scenario. By achieving carbon neutrality in 2035 rather than 2045, Alternative 1 would save an estimated 3,700 more lives than the Proposed Scenario.

Only two months of simulation data (January and July 2045) were used to assess the potential health effects of the different alternatives, an approach that the Plan notes results in underestimating the total health impacts. While the Air District appreciates the resource limitations and computational intensity of the analysis, we recommend additional simulations for at least one month in each of the other two seasons in 2045. This would allow calculation of annual $PM_{2.5}$ means, which can then be used for long-term health analyses, such as lung cancer and long-term mortality. Based on our research, the Air District finds that long-term mortality from $PM_{2.5}$ exposure often dominates the health impacts resulting from $PM_{2.5}$ and ozone exposure. Chronic health endpoints included in the Plan's health analysis, such as "incidence, lung cancer" and "hospital admissions, neurological (Alzheimer's and Parkinson's)" (see Table H-40), require quarterly mean inputs for $PM_{2.5}$, so we suggest calculating these impacts using a quarterly dataset.

In addition to being high global warming potential (GWP) gases, pesticides, such as sulfuryl fluoride, present additional health concerns, particularly for overburdened farming communities. The Air District encourages CARB to include cropland organic farming strategies to reduce the use of these pesticides and strongly supports implementation of this strategy in the Plan: Conduct research on the intersection of pesticides, soil health, GHGs, and pest resiliency via a multiagency effort with Department of Pesticide Regulation (DPR), California Department of Food and Agriculture (CDFA), and CARB.

Transparent Discussion of 2030 Goal

This decade has been deemed "the decisive decade for climate action" by the UN and President Biden, and the Plan states that "this decade must see transformation on a scale never seen before to set up for success in 2045." Given the importance of the State's 2030 GHG reduction goal in this context, the Plan would benefit from more transparency in the analysis of progress towards meeting the 2030 goal. For example, it would be useful for the Plan to provide a comparable level of detail on the anticipated reductions in GHG emissions, air pollution, and health benefits per measure for 2030 as it does for 2035 and 2045. Without this analysis for the statutory 2030 milestone, it is challenging for the reader to determine which measures are driving exceedance of the 2030 target for each scenario (and which could be even further accelerated), and what role the Cap-and-Trade Program plays in exceeding the target.

Local Government Actions

The Plan's discussion of local actions by local governments takes an important tactical approach by focusing on specific actions that have significant GHG impacts. It would be helpful if it could also include direction or guidance for local governments on how to set local GHG reduction targets that align with the state's 2030 and carbon neutrality climate goals. Appendix D refers to "adequately supported GHG emissions reduction goals" for localities, but it does not suggest what those goals should be in order to align with State targets. If CARB is recommending that local governments no longer use quantitative targets for their local plans, that point should be made more clearly. If that is the case, sufficient guidance on what types of goals are adequate should be provided in order to support the development of local plans that are consistent with achieving statewide carbon neutrality and can support streamlining under CEQA per State CEQA Guidelines.

The Air District fully agrees with the Plan's assertion that prioritizing transition to electric vehicles, reduction in vehicle miles traveled (VMT), and building decarbonization in local planning will address the largest sources of GHG emissions over which local governments have control while at the same time benefiting public health and welfare. This approach is well-aligned with the approach the Air District has taken with our recently adopted CEQA Thresholds of Significance for Climate Impacts. To increase impact, we suggest that the Plan recommend performance-based measures such as achieving community-wide reduction in VMT and eliminating natural gas, in addition to the prescriptive list of measures in Table 1 in Appendix D – Priority GHG Reduction Strategies for Local Government Climate Action.

The Plan outlines three approaches that lead agencies may consider for evaluating alignment of proposed CEQA projects with state climate goals – 1) a project attributes approach; 2) a net-zero approach; and 3) use of air district-adopted thresholds of significance. We appreciate the acknowledgement of thresholds of significance that have been adopted by local air districts, and the efforts to which CARB staff have gone to align with the Air District's recently adopted thresholds of significance. We have concerns about the inclusion of the net-zero approach as an option for new development projects, in that it would result in more projects avoiding the critical project attributes that directly reduce emissions in their design, even when their inclusion is feasible. The availability of a net-zero option is inconsistent with achieving carbon neutrality by 2045, as it will result in extensions of the natural gas infrastructure, delay of installing EV charging infrastructure, and continued increase in VMT from new development.

Throughout the Plan, CARB staff has included persuasive language on the need to aggressively phase out fossil fuels to combat the existential threat of global warming. It is therefore critical that development projects built today do not "lock in" sources of GHG emissions that will endure for decades. Allowing any "pass" for projects to forego including stringent no- or very low-GHG design elements runs counter to the goal of achieving carbon neutrality. There is a concerning degree of uncertainty that offsite mitigation or purchased offsets can truly offset the full amount of operational emissions over the life of a project. Without criteria of sufficient rigor, offsite mitigations may be duplicative, unenforceable, difficult to verify, and lacking permanence. The Air District recommends that the Plan's "mitigation hierarchy" emphasize inclusion of all feasible "mitigations" in the design of the project and de-emphasize offsite mitigation or purchase of offsets. We also recommend that the Plan include a discussion of the challenges and constraints associated with using offsite mitigation and offsets.

The Air District commends CARB for addressing the important connections between equity, housing, climate change impacts, and GHG mitigation. The discussion of equity in Appendix D focuses primarily on affordable housing and would benefit from discussion of other concerns like the air quality impacts of land use and transportation decisions as well as how and where to prioritize mitigation.

The Plan underscores the importance of action by local governments, asserting that local governments must continue to "build the projects and expend the funds needed" to support the State's path toward equitable emission reductions. However, there is no discussion of how the State will help local governments obtain funding or increase technical capacity to accommodate necessary projects. A discussion of funding pathways would be helpful. Additionally, permitting is raised multiple times in the Scoping Plan in several different contexts. The Air District agrees with CARB on the important role of permitting and land use decisions by "local partners" in successful implementation of the Plan. It would be helpful if the Plan included guidance on how

CARB would like to see local governments improve permitting to facilitate the needed transition to a net-zero economy.

Sector-Specific Measures

The Plan includes good discussion of GHG reduction approaches in multiple economic sectors. We recommend a brief discussion about potential funding sources for each group of key measures be included for each sector.

Transportation

Reducing VMT is a critical strategy to limit GHG emissions from the transportation sector. It would be helpful for the Plan to include more detail on how the 12 percent reduction in VMT for 2030 translates to the 2020 and 2035 regional targets, and how this reduction goal was chosen. The Air District supports the Objective in Appendix E focused on developing a statewide transportation demand management (TDM) framework with VMT mitigation requirements for large employers and large developments, as it aligns with the Air District's own Commuter Benefit Program. The Air District recommends calling out more best practices for TDM planning, including: commute trip reduction program; ride-sharing program; end of trip facilities; last mile services; employer-sponsored vanpool and shuttle services, carpool and vanpool ride-matching services, and transit fare subsidies for buses and/or other forms of public transit; and parking supply limits, parking cash-out, unbundled parking for building tenants, and other parking strategies. We also encourage inclusion of land use measures that reduce the need to drive, such as complete neighborhoods or "15-minute cities." It would be helpful to specify which of the Proposed Scenario's "Strategies for Achieving Success" and modeling assumptions can be implemented under existing Legislative or Executive direction and which ones require further authority or regulations.

Sustainable Buildings

The Air District recommends that more information be provided regarding the percentage of renewable natural gas / biomethane in natural gas pipelines necessary to meet some of the Sustainable Manufacturing and Buildings targets. We also recommend that there be a discussion of how the California Public Utilities Commission (CPUC) biomethane procurement targets for SB 1440 contribute to achieving carbon neutrality by 2045. We agree that reducing combustion will also help achieve our air quality and AB 617 goals, and we support the Plan's strategies to ensure that overburdened communities benefit from these statewide building decarbonization efforts. We also recognize the many benefits of improving energy efficiency and building envelopes beyond reduced energy consumption, and recommend a stronger emphasis on this approach in the Plan's narrative as a key building decarbonization strategy.

The Plan misses an opportunity to address embodied carbon in buildings, particularly with high-carbon building materials such as concrete. Several Bay Area local governments are adopting low-carbon concrete ordinances, and CARB can leverage these efforts by including this as a strategy in the Plan.

Industrial Facilities

The Proposed Scenario assumes a phasedown in oil and gas extraction and refining by 2045 in line with reduction of in-state petroleum demand, which would result in GHG emission reductions of 85 percent and 83 percent from these sectors, respectively. These reductions rely on the major assumption that these facilities will not export refined fuels to meet demand outside of California, thus continuing, or perhaps even increasing, extraction and refining activities. This assumption is not supported in the Targeted Evaluations for the Proposed Scenario: Oil and Gas Extraction and Refining section. This analysis needs more robust justification.

While the alternatives scenario analysis cites Alternative 1 as having high risk of leakage from hard-to-decarbonize industrial sectors, it remains unclear what the leakage risk is for these sectors under the Proposed Scenario. The Air District recommends more clarity on the level of risk and how the state will minimize and account for leakage under the Proposed Scenario.

Clean Electricity Grid

The Plan estimates a $30.5 billion cost for the electric transmission infrastructure upgrades needed to meet increased electricity demand. The Air District suggests that the Plan include a discussion of the equity implications of paying for these upgrades (e.g., estimated costs to ratepayers), with additional funds needed for expansion of the distribution system.

Landfills and Waste

The Plan includes several measures to reduce methane emissions from landfills, including through diverting organic waste. The Air District recommends that the Plan include a measure focused on research to determine methods that can reduce emissions from the active face of landfills, which generally are not regulated and not connected to landfill gas collection systems. In addition, we recommend that the Plan include a public education program throughout the state to encourage separation of organic waste from landfill waste, to reduce food waste, and to highlight the health and climate benefits of reducing dairy and beef in diets.

The Role and Performance of Cap-and-Trade

The Plan includes an abridged discussion of the Cap-and-Trade Program and its role to 'fill the gap' to meet the State's 2030 target of 260 $MMTCO_2e$ (Figure 2-10). Table 2-4 quantifies that gap as 44 $MMTCO_2e$ based on the Reference Scenario. However, Figure 2-1 and the AB 32 GHG Inventory Sectors Modeling Data Spreadsheet show emissions for the Proposed Scenario below this 2030 target at under 230 $MMTCO_2e$, bettering the target by 30 $MMTCO_2e$. It is not clear what specific role, if any, Cap-and-Trade plays in the Proposed Scenario's exceedance of the 2030 target and ensuring the State is on track to meet this target during 2022-2030.

Because of the high reliance on Cap-and-Trade to meet the State's climate goals, the Plan should provide more information about the performance of the Cap-and-Trade Program to date relative to its objectives. Specifically, the Air District recommends sharing the quantitative success of the Cap-and-Trade Program's reductions in CO_2e, such as time series of annual total emissions of Cap-and-Trade facilities in the different sectors.

In responding to equity-related concerns about Cap-and-Trade, the Plan focuses on a study that found "no increases in local air pollution." Given the stated equity focus of the Plan, we suggest the text be modified to paint a more complete picture of the complementary efforts to *decrease* local air pollution, such as the AB 617 program. The Air District appreciates that CARB commits to considering the EJAC recommendations when it evaluates the Cap-and-Trade Program in 2023. The newly permanent EJAC should be actively engaged in this process.

Caution Concerning Carbon Dioxide Removal (CDR) / Carbon Capture and Storage (CCS)

These two very different sets of processes to remove carbon from the atmosphere and facilities' exhaust are often discussed together. The IPCC asserts that both CDR and CCS will be required to achieve carbon neutrality, to remove legacy carbon emissions and compensate for emissions from industries that are difficult to decarbonize. While acknowledging the important role they play, the Air District encourages CARB to implement these strategies in a manner that results in: 1) avoiding capital investment in highly polluting industrial sources, potentially extending their lifetimes (particularly for CCS), and 2) avoiding impact of co-pollution in over-burdened communities. Furthermore, we recommend that health, climate, and equity concerns be evaluated and discussed for all transition processes enabled by CCS on which the Plan relies heavily, such as hydrogen generated from steam methane reformation, including a plan to ensure a prompt transition to truly clean and sustainable infrastructure.

The Air District applauds CARB for committing to engage in a multi-stakeholder process to further understand and address community concerns with CCS in response to the concerns raised by the EJAC. We recommend this process occur before any CCS rulemaking begins and that it be transparent and accessible. The Air District recommends that the Final Plan discusses what role communities will play in locating CDR projects.

The Proposed Scenario relies significantly on CDR and CCS to meet the 2045 carbon neutrality target. For example, a considerable amount of CCS will likely be required as early as 2025 to offset carbon emissions from hydrogen generated by steam methane reformation, which is proposed as a near-term solution to decarbonize hard-to-electrify portions of the transportation, electricity, buildings, and manufacturing sectors until renewable energy capacity increases enough to support green hydrogen production. The Proposed Scenario also depends on CDR to compensate for residual emissions of more than 90 $MMTCO_2e$ in 2045, as shown in Figure 2-5. The Air District recommends that CARB revisit the Proposed Scenario to identify more direct emission reductions from GHG sources, particularly those with health benefits, to lessen dependence on CDR and CCS which remain evolving technologies that increase the overall uncertainty of the Plan. Moreover, the level of emphasis on CDR in the Plan could lead the reader to surmise that these solutions are readily available. However, CDR technologies still need significant work to become viable solutions that are available for scaling. The Plan would benefit from more acknowledgment of the uncertainty related to development, implementation, and deployment of these technologies.

The Bay Area Air Quality Management District appreciates the opportunity to comment on the Draft 2022 Scoping Plan Update. We applaud the significant effort by CARB to develop a Draft Plan that addresses so many critical issues while plotting a pathway to carbon neutrality. To the extent the Final Scoping Plan addresses the comments and recommendations outlined in this

letter, we believe it will be stronger and better able to meet the State's climate goals while ensuring a more equitable, healthier, zero-carbon future for all Californians.

We welcome the opportunity to work with CARB and other agencies on implementation of the Final Scoping Plan. For any questions regarding our comments, please contact Jamesine Rogers Gibson, Senior Advanced Projects Advisor, at jrogersgibson@baaqmd.gov or Sally Newman, Senior Air Quality Specialist, at snewman@baaqmd.gov.

Sincerely,

Sharon Landers
Interim Executive Officer/APCO

Cc: Jared Blumenfeld, Secretary, California Environmental Protection Agency
Lauren Sanchez, Senior Climate Advisor, Office of Governor Newsom
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John J. Bauters, Chair, Board of Directors, Bay Area Air Quality Management District
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