



October 22, 2021

Liane Randolph, Chair  
California Air Resources Board  
1001 "I" Street  
Sacramento, CA 95814

**RE: Sierra Club California Comments on Scoping Plan Workshop - Scenario Inputs Technical Workshop on September 30, 2021**

Dear Chair Randolph and Members of the Board:

Sierra Club California, on behalf of our over 500,000 members and supporters in California, appreciates the opportunity to comment on the California Air Resources Board's (CARB) Scoping Plan Technical Workshop on Scenario Inputs.

There are a range of scenarios presented during the workshop, some of which Sierra Club California supports and some of which we have concerns about. In summary, we are recommending the following:

1. Provide a 6-month extension to allow for proper incorporation of EJAC's input
2. Prioritize direct emission reductions and phasing out fossil fuel combustion and production
3. Reframe no-combustion scenario to emphasize social benefits and include assumptions for innovation
4. Strengthen 2030 GHG emission reduction interim target to at least 68% but aiming for 80%
5. Maintain a GHG target of 30 MMT or lower by 2030 for the power sector
6. Take benefits from rapid electrification (Alternatives 1 and 2) in the transportation seriously and look for opportunities to achieve 100% light duty sales prior to dates in Alternatives 3 and 4
7. Include equity considerations in building decarbonization scenarios
8. Be cautious and realistic when evaluating the impacts of hydrogen, biofuels, biogas and bioenergy

Please see our more detailed comments below:

## **I. Environmental Justice Advisory Council (EJAC) Must Be Given Sufficient Time to Provide Input.**

We are concerned about the process for which the Environmental Justice Advisory Council (EJAC)'s input is being considered in the Scoping Plan. During the workshop, multiple members of the EJAC expressed feeling “blindsided” and “frustrated” by the current process and that the complex material presented at the September 30th meeting was the first time they were seeing it. This is not the first workshop during this Scoping Plan update where EJAC members have voiced their concerns over process and transparency. It is clear that more time is needed for both CARB to have meetings with EJAC to have in-depth discussions about its scenarios and for EJAC to collectively work through its own process for providing input. Thus, Sierra Club California supports EJAC's request for a 6-month extension of the statutory deadline for the 2022 Scoping Plan update to June 2023.

CARB is required to take into consideration input from the Environmental Justice Advisory Council (EJAC).<sup>1</sup> Inclusion of EJAC's input ensures that community voices are being represented and incorporated into the scoping plan. This type of sufficient and meaningful community engagement takes time, especially when the information being discussed is complex and highly technical. And there have already been delays in this process due to the impacts of COVID-19 and extreme wildfires.

Therefore, we support the EJAC request for CARB to extend the timeline for the Scoping Plan update by 6 months so that EJAC's input can be properly incorporated. This extra time will allow the EJAC sufficient time to analyze the information, conduct additional deep-dive meetings with CARB staff, and conduct meaningful outreach and engagement with community members.

## **II. CARB Must Prioritize Direct Emission Reductions and Phasing Out Fossil Fuels Rapidly**

We urge CARB to prioritize direct emission reductions and phasing out fossil fuels. Both are statutorily required and more health protective for vulnerable communities.

The Scoping Plan is required to prioritize rules and regulations that result in direct emission reductions at large stationary sources and mobile sources.<sup>2</sup> Thus, CARB must maximize reductions in air pollution and health harms, especially for low-income and disadvantaged communities. This can be done by reducing GHG emissions through requiring and achieving greater direct emission reductions and phasing out fossil fuel production and consumption as soon as possible.

Therefore, we appreciate inclusion of strong climate and environmental proposals in its draft scenarios, specifically those present in Alternative 1 that aim to achieve carbon neutrality by 2035 with a complete phaseout of combustion and production, with no reliance on engineered carbon

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<sup>1</sup> The California Global Warming Solutions Act of 2006 (AB 32; Stats. 2006, ch. 488).

<sup>2</sup> Assembly Bill 197 (AB 197), Cal. Health and Safety Code § 38562.5..

removal. Carbon removal technology has not yet advanced sufficiently to be a reliable, reasonable tool for reducing our greenhouse gas emissions. While it might eventually develop into an important tool, it is inappropriate wishful thinking for CARB to rely on an unproven technology to meet our climate targets. Phasing out fossil fuel combustion and ending oil and gas extraction and petroleum refining by 2035 provides multi benefits for both public health as well as combatting the climate crisis. Moreover, this scenario is directly aligned with the requirements under AB 197 to reduce direct emission reductions as well as the Governor’s request that CARB pursue carbon neutrality by 2035.<sup>3</sup>

However, certain proposals under Alternatives 2-4 seem to violate AB 197. Under these scenarios, there will be an increase in pollution in impacted communities and/or a failure to reduce direct emissions. For example, inclusion of biogas or carbon capture with combustion resources are not appropriate options. These options are not carbon neutral, and they will also contribute to worsening local air quality and public health impacts in frontline communities. We are also concerned that these “solutions” may be employed as an alternative to eliminating fossil fuel combustion which is unacceptable and violates AB 197.

Therefore, we urge CARB to focus on the existing clean, zero-emissions solutions that are available to achieve direct emission reductions and phase out reliance on fossil fuels without contributing to health and air quality impacts in environmental justice communities.

### **III. CARB Must Reframe its Representation of No-combustion Scenarios to Reflect Social Benefits and Encourage Use of Non-combustion Alternatives.**

As excited as we were to see strong climate proposals, we were equally as disappointed in the framing of these proposals in the presentation. For example, under the no-combustion scenario there is reference to the fact that those hard to decarbonize sectors - cement, aviation, etc. - would be phased out in California and that certain industry facilities will need to be closed.<sup>4</sup> This framing provides a false choice: that California would not achieve the strongest and most protective environmental policies without economic hardship.

There is also an imbalance among the different scenarios. All of the alternatives, *except for the no-combustion scenario*, include assumptions for various technological developments. CARB should correct this imbalance and reframe the no-combustion scenarios (Alternative 1) to include assumptions around innovative advancements or investments in clean, zero-emission technology and uplifting current non-combustion transition strategies. There is already a plethora of clean, zero-carbon technology available to achieve direct emission reductions as well as other sustainable practices and strategies for reducing emissions.

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<sup>3</sup> Governor Gavin Newsom, Letter to Liane Randolph, Chair of California Air Resources Board (July 9, 2021), available at [https://www.gov.ca.gov/wp-content/uploads/2021/07/CARB-Letter\\_07.09.2021.pdf](https://www.gov.ca.gov/wp-content/uploads/2021/07/CARB-Letter_07.09.2021.pdf).

<sup>4</sup> 2022 Scoping Plan Update - Scenario Inputs Technical Workshop (Sept. 30, 2021) at slides 11 & 15, [https://ww2.arb.ca.gov/sites/default/files/2021-09/carb\\_presentation\\_sp\\_scenarioinputs\\_september2021.pdf](https://ww2.arb.ca.gov/sites/default/files/2021-09/carb_presentation_sp_scenarioinputs_september2021.pdf).

In addition, CARB must be considering the full range of social costs associated with its scenario proposals and the various methods of achieving GHG reductions. CARB must include in its analysis the significant co-benefits for air quality, health, and quality of life of no-combustion scenarios. Alternatively, CARB must ensure its other scenarios reflect the full societal damages from continued pollutant emissions and any other physical, economic, or environmental impacts due to reliance on biofuels or other alternatives that would prolong the life of fossil fuel activities.

#### **IV. CARB Must Strengthen the State’s Outdated 2030 GHG Reduction Targets.**

We urge CARB to bear in mind the statutory obligations that require significant emission reductions by 2030 under Senate Bill 32 (SB 32).<sup>5</sup> It is more important for CARB to maximize near-term progress rather than focusing on carbon neutrality dates further in the future. SB 32 requires CARB to focus on 2030 to make significant direct GHG emission reductions. Given that California is already feeling the impacts of climate change, failure to meet the 2030 climate goal is not an option.

California’s current target of 40% below 1990 levels by 2030 is outdated and does not reflect the present practice being employed by other countries around the world. Several major climate leading nations have increased their 2030 target. For example, Denmark’s target is now 70%, the United Kingdom has a target of 68%, and Germany has a current 2030 target of 65%.<sup>6</sup> So while we appreciate that CARB is proposing something higher than 40%, these proposals are still exceedingly low for a state that claims to be an international climate leader. California should at the very least match the United Kingdom’s 68% target but should aim for hitting an 80% GHG emission reduction target based on the recommendations from leading climate and social scientists.<sup>7</sup>

Furthermore, the most recent report from the Intergovernmental Panel on Climate Change (“IPCC”) makes alarming findings about the current and future dangers of a changing climate. It warns that climate change is happening more rapidly than previously predicted. The report says that “hot extremes” will continue to become more intense and more frequent.<sup>8</sup> The same is true for drought<sup>9</sup> and extreme flooding.<sup>10</sup> These findings make clear that we are facing the prospect of immense social disruption and humanitarian disasters at a scale we have not yet grappled with as a civilization.

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<sup>5</sup> SB 32, California Global Warming Solutions Act of 2006.

<sup>6</sup> Earthjustice & Sierra Club California, Comments on Air Resources Board Scoping Plan Update (Sept. 3, 2021), <https://www.arb.ca.gov/lists/com-attach/68-sp22-concepts-ws-UTOHYFwvVnEHaQZs.pdf>; *Denmark’s Ambitious Green Vision*, IMF (Jan. 11, 2021),

<https://blogs.imf.org/2021/01/11/denmarks-green-vision-a-model-for-other-countries/>; *Outcomes and Next Steps from the Climate Ambition Summit*, WRI (Dec. 17, 2020),

<https://www.wri.org/insights/outcomes-and-next-steps-climate-ambition-summit>; *Germany’s greenhouse gas emissions and energy transition targets*, Clean Energy Wire (Aug. 16, 2021),

<https://www.cleanenergywire.org/factsheets/germanys-greenhouse-gas-emissions-and-climate-targets>;

<sup>7</sup> Daniel Kammen et al, Accelerating the Timeline for Climate Action in California (Apr. 2021) <https://arxiv.org/ftp/arxiv/papers/2103/2103.07801.pdf>

<sup>8</sup> [https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC\\_AR6\\_WGI\\_Full\\_Report.pdf](https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Full_Report.pdf), SPM-19.

<sup>9</sup> *Id.*

<sup>10</sup> *Id.* at SPM-25.

We cannot put all of our focus onto end date targets of 2035 or 2045 because there is an urgent need to decrease greenhouse gas emissions now in order to avoid compounding crises. CARB must strengthen its interim targets if we are going to hit our 2030 goals. If California wants to be a leader, it must strengthen its 2030 goal to at least 68% while aiming to hit an 80% GHG reduction target by 2030. This updated target goal will position California as an international climate change leader and also bring focus back to near-term direct emission reductions that will benefit many Californians across the state.

#### **V. Sierra Club CA supports CARB's Proposals for Stronger GHG Planning Targets.**

CARB must include policies that will accelerate California's clean energy transition. That is why Sierra Club California is excited to see the strong proposals for the power sector. Specifically, we support those proposals that consider achieving a power sector GHG target of 30 or lower million metric tons of CO<sub>2</sub> equivalent (MMT) by 2030. An aggressive planning target like these would help ensure criteria pollutant emissions decrease, keep California on track for meeting its GHG requirements, and ensure alignment with SB 100 modeling.

Rapidly decarbonizing the electric sector is critical for meeting the state's climate targets and phasing out the state's reliance on fossil fuels. In addition, beneficial electrification has been identified as the most cost-effective way to decarbonize our buildings and vehicles.<sup>11</sup> In order for the full benefits of electrifying our buildings and homes, the electric grid that supports more industries must also sufficiently cut emissions. CARB must plan for a high electrification future now. And a 30 MMT or lower target by 2030 is critical.

Moreover, a 30 MMT or lower target will help send the right market signals and help California's electricity providers meet the requirements for achieving the state's climate goals. Stronger GHG planning targets will also foster innovation among clean energy resources to provide much-needed jobs, public health benefits, and economic relief and support reliability as the state prepares for the retirement of Diablo Canyon, Aliso Canyon, and long-delayed once-through-cooling plants. We encourage CARB to also include integration of higher levels or distributed generation into the scenario proposals. Distributed generation can increase local resilience, reduce peak loads, reduce transmission needs, and provide an important pathway to meeting the 30 MMT or lower target.

Alternatively, Sierra Club California does not support Alternative 4's inclusion of "retail sales load coverage." This is an unreasonable option as California *will not* be able to maintain significant GHG emissions under this "retail sales" loophole. California must procure significant new clean energy resources to meet the zero-carbon electricity target in SB 100. Alternative 4's reliance on "retail sales load coverage" will defeat the purpose of SB 100. Utilities need targets that optimize for GHG

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<sup>11</sup> Energy+Environmental Economics & Univ. of California, Irvine, *The Challenge of Retail Gas in California's Low-Carbon Future: Technology Options, Customer Costs, and Public Health Benefits of Reducing Natural Gas Use*, at 4 (Apr. 2020), <https://www.energy.ca.gov/sites/default/files/2021-06/CEC-500-2019-055-F.pdf>.

reductions across their portfolios, not simply the fraction of retail sales subject to the Renewable Portfolio Standard.

## **VI. CARB Must Prioritize Rapid Electrification of the Transportation Sector and Substantial VMT Reductions**

Sierra Club California appreciates CARB's decision to evaluate 100% light-duty ZEV sales by 2025 and 100% heavy-duty ZEV sales by 2030. This analysis will undoubtedly show the immense climate and public health benefits associated with the rapid phase out of fossil-fuel powered vehicles. CARB should use this scenario to see what strategies are most effective for a rapid transition to light-duty ZEVs and implement them as quickly as possible.

California continues to lag behind many European countries in ZEV sales in large part due to our lack of aggressive rulemaking<sup>12</sup>. The current proposal in Advance Clean Cars II regulation sets ZEV sales targets far lower than those in the Mobile Source Strategy which itself does not set targets that will meet California's climate goals and federally mandated clean air standards<sup>13</sup>. The Scoping Plan must aim to actually achieve emission reduction goals and mandates in the transportation sector and current rulemakings should align themselves with a strong Scoping Plan.

Sierra Club California also supports CARB analyzing a 12% and 15% VMT reduction between 2019 and 2030. E3's *Achieving Carbon Neutrality in California* report calls for a 17% reduction in VMT between 2020 and 2045<sup>14</sup>. Even with aggressive vehicle fleet electrification, VMT reduction will be critical to achieving carbon neutrality in the state.

## **VII. Building Decarbonization Strategies Should Be Uplifted and Must Incorporate Equity Concerns.**

Sierra Club California supports CARB's strong proposals for building decarbonization strategies. Decarbonizing the building sector is a critical element to achieving our state's climate goals. But even then, programs, policies, and/or strategies for building decarbonization must include equity considerations and ensure that they will not increase barriers and burdens on low income communities.

We would like to echo the comments raised by our environmental justice partners and ensure that CARB prioritizes energy democracy in building decarbonization strategies. This includes: (1) ensuring affordability and removing barriers to access electric appliances, (2) promoting high-road

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<sup>12</sup> International Energy Agency's global data explorer covers most countries annual plug-in sales. Available at <https://www.iea.org/articles/global-ev-data-explorer>

<sup>13</sup> CARB 2020 proposed Mobile Source Strategy at page 68. Available at [https://ww2.arb.ca.gov/sites/default/files/2021-09/Proposed\\_2020\\_Mobile\\_Source\\_Strategy.pdf](https://ww2.arb.ca.gov/sites/default/files/2021-09/Proposed_2020_Mobile_Source_Strategy.pdf)

<sup>14</sup> Energy+Environmental Economics, *Achieving Carbon Neutrality in California* (Oct. 2020), at 39, available at [https://ww2.arb.ca.gov/sites/default/files/2020-10/e3\\_cn\\_final\\_report\\_oct2020\\_0.pdf](https://ww2.arb.ca.gov/sites/default/files/2020-10/e3_cn_final_report_oct2020_0.pdf)

jobs, workforce development and family-sustaining wages, and (3) protecting lower income households against harms such as rent increases and displacement.<sup>15</sup>

We look forward to CARB hosting a workshop specific to building decarbonization where these policies and strategies can be discussed in more detail.

### **VIII. CARB Should Be Realistic, Cautious and Incorporate a Full Lifecycle Analysis When Evaluating Biofuels**

Sierra Club California is concerned with the heavy reliance on biofuels across the different scenario proposals. CARB must exercise extreme caution when considering the future of biofuels in California and when modeling the impact of their continued or increased use across sectors.

First, CARB must account for the entire lifecycle emissions of biofuels. For example, if a biofuel is derived from forest biomass, the analysis must include emissions from logging, transporting, and grinding the biomass. The lifecycle analysis should not assume that biomass removed from the forest would have had an alternative fate of open burning or wildfire. Open pile burning of biomass can be avoided by the creation of non-polluting wood products.<sup>16</sup> Wildfires cannot be assumed as an alternative fate because any given area has a very low probability of encountering wildfire prior to vegetation regrowth.<sup>17</sup>

Additionally, Sierra Club California is aligned with environmental justice organizations in opposition to continued state support for dairy digesters<sup>18</sup>. To the extent that dairy digesters are included in any scenarios, their true emission impact must be evaluated. Emissions from CAFOs should not be considered necessary or natural and consequently, emission reductions resulting from dairy digesters should not be considered carbon neutral or negative. Scenarios and analyses must also account for emissions from methane leakage associated with dairy digesters (and all methane used throughout the state).

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<sup>15</sup> Asian Pacific Environmental Network, et al., Initial Response to Scenario Concepts Technical Workshop (Sept. 3, 2021), <https://www.arb.ca.gov/lists/com-attach/62-sp22-concepts-ws-UDISOgdvUnVRPgRI.pdf>; RMI, *Decarbonizing Homes: Improving Health in Low-Income Communities through Beneficial Electrification*, (2021), <https://rmi.org/insight/decarbonizing-homes/>.

<sup>16</sup> *Moving Beyond Incineration* report predicts the amount of forest waste that may be available in coming years and suggests clean uses for the waste. [https://www.sierraclub.org/sites/www.sierraclub.org/files/sce/sierra-club-california/PDFs/SCC\\_MovingBeyondIncineration.pdf](https://www.sierraclub.org/sites/www.sierraclub.org/files/sce/sierra-club-california/PDFs/SCC_MovingBeyondIncineration.pdf)

<sup>17</sup> DellaSala, D.A. and M. Koopman 2016. Thinning Combined with Biomass Energy Production Impacts Fire-Adapted Forests in Western United States and May Increase Greenhouse Gas Emissions. Reference Module in Earth Systems and Environmental Sciences; Rhodes, J.J. and W.L. Baker. 2008. Fire probability, fuel treatment effectiveness and ecological tradeoffs in western U.S. public forests. *Open Forest Science Journal* 1: 1-7.

<sup>18</sup> Coalition Letter in opposition to Dairy Biogas Subsidies. Available at <https://leadershipcounsel.org/ca-environmental-groups-state-should-not-subsidize-dairy-biogas-production/>

Analyses should also not assume that conversion of existing oil refineries to biofuel refineries will result in significant (or any) emissions reductions. These biofuel refineries are severely limited in terms of feedstocks and more research is needed to determine their actual environmental impacts. Further, CARB must accurately evaluate and consider potential criteria pollutants associated with these facilities and weigh these emissions against the alternative of completely decommissioning these refineries. Frontline communities have been living with the toxins these refineries emit for far too long and if conversion to biofuel does not provide an overwhelmingly positive outcome for these communities, these projects are not worth pursuing.

In limited situations, zero-emission green hydrogen produced entirely by renewable energy resources could potentially decarbonize certain high-energy industrial processes and other hard-to-decarbonize sectors. Hydrogen that is derived from fossil fuels or created using grid power is highly polluting. Both types of hydrogen are difficult and expensive to produce and are less efficient to use than electricity.<sup>19</sup> To the extent that the scenarios evaluate the use of hydrogen, they cannot assume that fossil-fuel derived hydrogen is carbon neutral and they must be realistic in how hydrogen can and should be used given its limitations. Additional impacts including increased criteria air pollutants such as NOx and health impacts from burning hydrogen must also be taken into consideration as part of the analysis.

## IX. Conclusion

Sierra Club California urges CARB to continue to prioritize direct emission reductions as well as strengthening the 2030 GHG emission reduction targets. In addition, while Sierra Club California appreciates the inclusion of strong climate policies in the Alternative 1 proposal, we urge CARB to reframe that proposal to highlight the importance of innovation and non-combustion alternatives that either exist or are on the horizon. We also strongly recommend that CARB extend its Scoping Plan timeline by at least 6 months to give the EJAC sufficient time to provide meaningful input for CARB's consideration, as required by AB 32.

Thank you for your consideration of our comments. We look forward to working with you as this process continues.

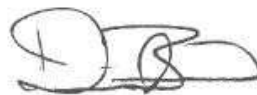
Sincerely,



Brandon Dawson  
Director



Lauren Cullum  
Policy Advocate



Daniel Barad  
Policy Advocate

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<sup>19</sup> Earthjustice, *Reclaiming Hydrogen for a Renewable Future*, 13 (2021), available at [https://earthjustice.org/sites/default/files/files/hydrogen\\_earthjustice\\_2021.pdf](https://earthjustice.org/sites/default/files/files/hydrogen_earthjustice_2021.pdf).