September 3, 2021

Ms. Rajinder Sahota
Deputy Executive Officer, Climate Change & Research
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Submitted electronically

Re: EDF Comments on the 2022 Scoping Plan Scenario Concepts Technical Workshop

Dear Ms. Sahota,

Environmental Defense Fund appreciates the opportunity to provide comments to inform California's 2022 Climate Change Scoping Plan Scenarios, and the California Air Resources Board's (CARB) consideration of these comments. EDF commends CARB's leadership through this process and we appreciate CARB and all of the collaborating agencies and commissions for their abundant work preparing for this update.

This decade is a critical time for California, and the world, to dramatically slash greenhouse gas emissions. Here in California, we are already seeing these impacts – historic wildfires, drought, extreme heat, sea level rise, coastal flooding and erosion, and more – each with *devastating* environmental, health, and economic impacts.[1] Avoiding the worst impacts of climate change will require securing as many reductions as possible as early as possible to stay within the carbon dioxide budgets identified by the Intergovernmental Panel on Climate Change (IPCC) to limit global warming to 1.5℃ – a grave milestone that the world could reach as early as 2030.[2]

Fortunately, thanks to decades of climate leadership, California already has many of the tools and certainly the opportunity to increase ambition, right now, in addressing climate change.

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[1] California Department of Justice Office of the Attorney General, Climate Change Impacts in California, *available at*: https://oag.ca.gov/environment/impact.

[2] Intergovernmental Panel on Climate Change (IPCC), 2018, Global warming of 1.5°C: An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty, pp. 6, 17, *available at*: https://www.ipcc.ch/site/assets/uploads/sites/2/2018/07/SR15_SPM_version_stand_alone_LR.pdf.

In its August 17, 2021 Scenario Concepts Technical Workshop, CARBoutlined scenario design options that could exceed the state's 2030 target and accelerate achieving statewide net-zero greenhouse gas emissions to 2035[3] – laying a strong foundation for another decade of climate leadership. EDF is encouraged by CARB's intention to study pathways to accelerate the state's emission reductions as the need for aggressive climate action becomes consistently more urgent.

Furthermore, EDF commends CARB for including a health impact assessment of Scoping Plan scenarios, as recommended by the previous Environmental Justice Advisory Committee (EJAC)[4] – an essential step for ensuring equitable outcomes are central to the state's climate strategy. Additionally, as CARB develops Scoping Plan scenarios, they should examine how to maximize co-pollutant reductions alongside greenhouse gas emission reductions, as the previous EJAC also recommended. We also encourage CARB in developing the Scoping Plan scenarios to maximize energy and transportation affordability and accessibility for overburdened communities, especially those with lower incomes or those in rural areas of California.

EDF submitted extensive comments of policy considerations and recommendations on July 9, 2021.[5] From these comments, EDF has two specific recommendations to highlight to inform the Scoping Plan scenario development, both of which build on California's strong foundation of climate action.

1. California's suite of climate policies must be calibrated to deliver on its strong leadership. This includes increasing the stringency of the cap-and-trade program to ensure it is fully capable of limiting economy-wide emissions below the 2030 target, *and* maximizing cumulative emission reductions before 2030. A more stringent cap-and-trade allowance budget – aligned with California's continued climate ambition – should be included in the final Scoping Plan scenario. To enable this, CARB should model a tighter emissions cap alongside the planned scenario modeling in PATHWAYS.

2. The modeled Scoping Plan scenarios should ensure that carbon removal strategies are not a substitute for direct emission reductions. To the extent that engineered carbon removal is utilized alongside steep, direct emission reductions, including carbon capture technology, the modeling and subsequent health analysis should include impacts on local air quality and public health. The Scoping Plan and any subsequent rule-makings should include provisions for preventing an increase in local air pollution and adverse impacts on public health from carbon removal or carbon capture technologies, and ensure strict standards of environmental integrity of carbon storage projects.

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[3] August 17, 2021 "Scenario Concepts Technical Workshop," CARB presentation, slide 12, *available at*: https://ww2.arb.ca.gov/sites/default/files/2021-08/carb_presentation_sp_scenarioconcepts_august2021_0.pdf.

[4] CARB, 2017 Scoping Plan Appendix A: AB 32 Environmental Justice Advisory Committee (EJAC) Recommendations, *available at:* https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/2030sp_appa_ejac_final.pdf.

[5] Environmental Defense Fund Comments on the 2022 Scoping Plan Update, July 9, 2021, *available at:* https://www.arb.ca.gov/lispub/comm2/bccomdisp.php?listname=sp22-kickoff-ws&comment_num=144&virt_num=103 *and* https://www.arb.ca.gov/lispub/comm2/bccomdisp.php?listname=sp22-kickoff-ws&comment_num=145&virt_num=104.

Model and secure greater ambition from California's emissions "backstop"

California's cap-and-trade program is a nation-leading policy; when well-designed, a firm, declining cap on emissions provides the greatest possible certainty of meeting greenhouse gas reduction targets. This pollution limit, set by the emissions budget for covered sources, is the most essential feature of the cap-and-trade program. The cap should act as the backstop to keep California on track to its climate goals – ensuring that economy-wide emissions do not exceed target levels. If other programs help achieve greater reductions than expected then there is less pressure on the cap; but if other programs deliver fewer reductions, the cap remains the state's "insurance policy" to make sure emissions continue to decline at the pace required.

Given the need to immediately and aggressively cut greenhouse gas emissions, it is critical that California's cap-and-trade program is stringent enough to ensure the state meets its 2030 goal of 40% below 1990 emissions, *and* minimize the state's total greenhouse gas emissions over this decade. EDF recommends that the Scoping Plan evaluate the role that the cap-and-trade program can play to fully close the gap between expected abatement from sectoral policies and the emission cuts necessary to achieve cumulative reductions over the next decade consistent with the state goals. While these comments refer to the existing 2030 goal, should CARB accelerate that goal in light of the current climate crisis, it would remain crucial to adjust allowance supply so that the program is fully capable of delivering on the state's ambition.

As such, CARB should take the first step of modeling a more ambitious emissions cap, specifically accounting for the following:

- *Banked allowances*: In order to function effectively as the backstop, the budget from 2021 to 2030 must be calibrated to ensure that cumulative emissions in California, *at a minimum*, do not exceed emissions allowed under a linear trajectory from 2020 to 2030 targets, factoring in the estimated 200 million "banked" allowances that may be retired for compliance in the upcoming years.[6]

- *Uncapped emissions*: CARB should develop emissions projections for all California emissions sources – including sectors outside the cap – ensuring that the budget being evaluated for the cap-and-trade program is stringent enough to accommodate any potential growth in emissions from uncapped sectors in the emissions inventory and still secure the cumulative reductions necessary. In other words, if an increase is projected in uncapped sectors even given any existing or likely future complementary policies, the budget should be reduced in order to ensure the capped sectors overperform and reduce additional emissions to accommodate any projected increase in uncapped sectors.

- *Opportunity for greater ambition*: Because California successfully achieved its 2020 emission reduction goal ahead of schedule, there is a readily accessible opportunity to increase climate ambition by further increasing the stringency of the cap. The current

[6] Legislative Analyst's Office, 2017, Cap-and-Trade Extension: Issues for Legislative Oversight, *available at:* https://lao.ca.gov/Publications/Report/3719.

post-2020 cap was based on a straight-line reduction between 2020 and 2030, rather than a step down in 2021. CARB should evaluate budget trajectories that take advantage of the additional reductions achieved before 2020, and consider trajectories that at the very minimum decline linearly from 2020 actual emission levels, while also considering an even more significant reduction in pre-2030 annual allowance budgets in order to maximize cumulative emission reductions.

As CARB models the ambition needed from the cap-and-trade program, it has multiple policy levers in its toolbox. The Independent Emissions Market Advisory Committee (IEMAC) outlined in their 2020 annual report CARB's opportunity in this Scoping Plan to "align the future issuance of new allowances with allowance supplies already available in private and public banks. Alignment matters because allowances currently in private and public accounts enable emissions in excess of the annual issuance of new allowances. To achieve the state's ambitious emission reduction goals, the annual issuance of new allowances could be adjusted to better align the total supply of allowances in circulation (including banked allowances) with the state's goals."[7] IEMAC details several approaches to calibrating allowance supply in line with program ambition, including reducing the cumulative emissions cap, establishing an Emissions Containment Reserve, and increasing price-responsiveness. **The key imperative is to calibrate allowance supply to deliver the steep and persistent GHG emission reductions needed in this decade** – and CARB has multiple strategies available to tighten the emissions cap.

Ensure greenhouse gas removal strategies are not a substitute for emission reductions

To achieve economy-wide net-zero greenhouse gas emissions by 2045, California needs to sharply reduce emissions from all sectors. But it is also clear that some emission reductions will be extremely difficult to achieve, such as from agriculture, and it is possible that reductions from certain, limited industrial processes would be extraordinarily expensive. As such, additional measures that are capable of removing carbon dioxide from the atmosphere can play a valuable role in securing the net reductions necessary as quickly as possible.

Across the options laid out in the Scenario Workshop, CARB contemplated various roles for engineered carbon removal to play in swiftly achieving net-zero greenhouse gas emissions and net-negative emissions. While carbon removal is necessary to achieving these goals, these measures are not a substitute for reducing emissions directly from the pollution source. As such, EDF recommends that carbon removal strategies should be modeled as *complementary* to steep, direct reductions at emissions sources.

[7] IEMAC, 2020 Annual Report, p. 6, *available at*: https://calepa.ca.gov/wp-content/uploads/sites/6/2021/01/2020-ANNUAL-REPORT-OF-THE-INDEPENDENT-EMISSIONS-MARKET-ADVISORY-COMMITTEE_FINAL_a.pdf.

Additionally, to reiterate points discussed at length in the previous set of comments referenced above, we encourage CARB to include the following in the modeled scenarios and the final Scoping Plan scenario:

- Targets to decarbonize the electricity grid as quickly as possible, including strategies to incentivize the in-state deployment of clean firm power resources.
- Zero-emission baseline for new building construction, as well as strategies to decarbonize existing buildings.
- Strategies to swiftly transition the vehicle fleet to zero-emission vehicles.

Finally, we encourage CARB to consider updating its modeling approach to include the upstream emissions from natural gas imports, as described in CARB's November 2020 report, "Out-of-State Greenhouse Gas Emissions from Loss, Release, and Flaring of Natural Gas Imported to California."[8] As CARB states, "Understanding the emissions associated with that gas could help inform California policies and goals to reduce emissions associated with natural gas use." Including these emissions in scenario modeling can help the state address these emissions.

EDF looks forward to working with CARB throughout the Scoping Plan process and in accompanying rule-makings to increase California's climate ambition and achieve swift, direct emission reductions.

Sincerely,

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[8]https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2018/ab_2195_out_of_state_natural_gas_emissions.pdf