EARTHJUSTICE

July 9, 2021

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

RE: Earthjustice Comments on Air Resources Board Scoping Plan Update

Dear Chairman Randolph and Members of the Board:

The climate crisis is already wreaking havoc in California. Less than one month into the summer, Californians are bracing for their third major heat wave of the year.[1] As with the devastating effects of the drought, these impacts disproportionately harm vulnerable communities in California. These conditions compound the statewide trepidation about the wildfire season: so far, 2021 is outpacing the record-breaking flames of 2020 that choked the western seaboard in smoke for over a month.[2]

Scientists have repeatedly warned that humanity's actions in the dwindling years of this decade will determine whether these impacts remain manageable, or spiral towards irreversible catastrophe .[3] The 2022 Scoping Plan must confront this reality. What may once have been treated as a pledge of incremental progress toward the State's goals must now become a blueprint for a rapid, wholesale transformation of California's energy system. CARB cannot shy away from the need for bold, decisive, and unprecedented action. In the Scoping Plan, CARB must chart a path forward that not only meets the scale of the climate crisis, but repairs the deep injustices of our extractive, fossil fueled energy system, and builds a healthier, more ecologically vibrant, and more just California.

We begin our comments by underscoring the urgency of the climate crisis, and consequently, the need for the Scoping Plan to grapple with more scientifically defensible climate targets. We then argue that CARB's commitments to environmental justice mandate an approach to carbon neutrality that maximizes reductions of—and eventually eliminates—fossil fuel production and consumption, beginning in frontline communities. Finally, we offer specific suggestions for how the Scoping Plan should strengthen equitable climate action in the fossil fuel production, transportation, buildings, and electricity sectors.

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[1] Daniel Swain, "Yet Another Major Heatwave for the California Interior, Though the Coast will be Spared (Again!)" (July 6, 2021) https://weatherwest.com/.
[2] CBS Sacramento, "Cal Fire: 2021 Wildfires Already Outpacing 2020's Wildfires" (July 6, 2021) https://sacramento.cbslocal.com/2021/07/06/2021-wildfires-outpacing-2020/.
[3] Fiona Harvey, "IPCC Steps Up Warning on Climate Tipping Points in Leaked Draft Report" (June 23, 2021) quoting Professor Myles Allen: "This is a fixable problem. We could stop global warming in a generation if we wanted to, which would mean limiting future warming to not much more than has happened already this century. We also know how."
https://www.theguardian.com/environment/2021/jun/23/climate-change-dangerous-thresholds-un-report

1. **To Plan for the Reality of the Climate Crisis, California Must Double Its Near-Term Climate Targets.**

California's outdated 2030 climate target fails to reflect the current, more troubling reality of the best available climate science, and to account for the principles of climate justice. Revising the 2030 target (a reduction of 40% below the 1990 level) is necessary to address the dissonance in the State's current approach to climate policy, which still suffers from the false belief that incremental reforms can satisfy the objective to mitigate the global climate emergency. They cannot. The 2018 Intergovernmental Panel on Climate Change's ("IPCC") Summary for Policymakers made clear: to avert climate catastrophe and limit warming to 1.5 degrees requires "rapid, far-reaching and unprecedented changes in all aspects of society."[4] As a leader of the Under2 Coalition and signatory to the Global Climate Leadership Memorandum of Understanding, California has recognized that "pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels … would significantly reduce the risks and impacts of climate change." [5]

The California Legislature set the current 40% target in 2015 with the goal of keeping warming to 2 degrees Celsius. Since then, global emissions have risen every single year. The IPCC has detailed in a lengthy report that the social and ecological impacts of maintaining warming below 1.5, as opposed to the previous target of 2 degrees Celsius, are enormous.[6] The higher level of warming would mean substantially more areas of the planet will become inhabitable, the outright collapse—as opposed to just strain on—several food and water systems, the extinction of hundreds of additional species, and hundreds of thousands of additional climate refugees.[7] To have a reasonable chance of keeping warming below this level, *global* emissions need to be cut by more than half within the decade, and completely eliminated *before* mid-century, ideally by 2040.[8]

Unfortunately, this pace must also be treated as the most conservative possible estimate of what is actually needed to avert climate catastrophe, because:

- It under-accounts for the atmospheric warming hidden in air pollution;
- It ignores the cascading feedback loops that can be triggered at lower levels of warming, which would lock in irreversible damage to the planet (already, nine of fifteen critical global climate tipping points are approaching or beyond natural limits);[9]

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[4] IPCC, Summary for Policymakers – Special Report on Global Warming of 1.5 degrees (Oct. 2018) https://www.ipcc.ch/2018/10/08/summary-for-policymakers-of-ipcc-special-report-on-global-warming-of-1-5c-approved-by-governments/

[5] *See* Under2 Coalition, https://www.theclimategroup.org/under2-coalition; Global Climate Leadership MOU, https://www.theclimategroup.org/sites/default/files/2020-09/under2-mou-with-addendum-english-us-letter.pdf.

[6] Kelly Levin, Half a Degree and a World Apart: The Difference in Climate Impacts Between 1.5˚C and 2˚C of Warming (Oct. 7, 2018**)** https://www.wri.org/insights/half-degree-and-world-apart-difference-climate-impacts-between-15c-and-2c-warming

[7] Id.

[8] Kelly Levin, "8 Things You Need to Know About the IPCC 1.5C Report" (Oct. 7, 2018) https://www.wri.org/insights/8-things-you-need-know-about-ipcc-15c-report

[9] Timothy Lenton *et al*. Climate Tipping Points — Too risky to Bet Against: The growing threat of abrupt and irreversible climate changes must compel political and economic action on emissions. *Nature*, Nov 27, 2019.

- The world may well reach dangerous levels of warming by as early as 2027—almost two decades sooner than initially forecast;[10]
- So far, many of the impacts of warming are in line with the worst-case scenarios projected earlier by climate scientists.[11]

Moreover, California cannot just proportionally meet the global average emissions reductions of over 50 percent by 2030 called for by the IPCC. As one of the wealthiest, most well-resourced States with enormous historical emissions, the principles of climate justice and common but differentiated responsibilities dictate that California must do substantially more to give other nations, primarily in the Global South, an opportunity to provide a dignified standard of living for their people. Basic fairness means that California will need to reduce emissions far more rapidly to make up for the share of the carbon budget it has already consumed.

It is abundantly clear—California's 2015 climate targets are out of date and must be dramatically accelerated.

While a bill to rectify California's deficient climate targets has been introduced in the Legislature (SB 582 – Stern)[12], it will not be considered until next year, when the Scoping Plan will need to be completed. **For this reason, we recommend CARB take an initial step to model a more aggressive, alternative scenario that reduces emissions in line with what science and justice demand—an 80% (rather than 40%) reduction below 1990 levels by 2030.**

The 80% target is not just an aspiration of leaders in the State's Legislature. Several leading California climate and social scientists—including former U.S. Science Envoy, Daniel Kammen—have outlined both the need and the potential for California to achieve an 80% GHG reduction below 1990 levels by 2030.[13] As the authors conclude, "it is time for California to establish a new set of targets backed by feasibility studies that take into account the declining cost for clean energy technologies, a social cost of carbon, and the disproportionate health, housing, transportation, and other costs to frontline and other disadvantaged communities."[14]

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[10] Xu, Y., V. Ramanathan, & D. G. Victor, Global warming will happen faster than we think, *Nature*, 30-32.
[11] Slater, T, Earth's Ice Imbalance (2021) https://tc.copernicus.org/articles/15/233/2021/ .
[12] Senator Henry Stern, SB 582 – Climate Emergency Mitigation, Safe Restoration, and Just Resilience Act of 2021, https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=202120220SB582
[13] Daniel Kammen et al, Accelerating the Timeline for Climate Action in California (Apr. 2021) https://arxiv.org/ftp/arxiv/papers/2103/2103.07801.pdf
[14] Id. at 8.

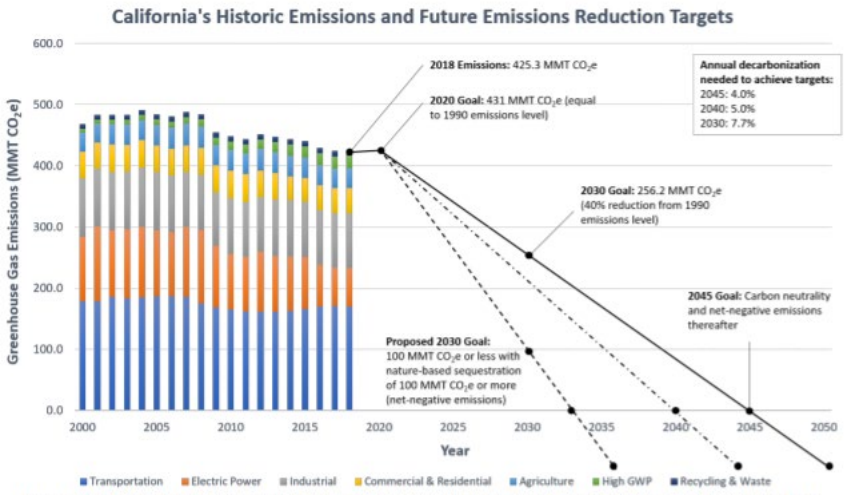


Figure 1. California's historic emissions and future emission reduction targets. The pathway to carbon neutrality by 2045 (SB100, a 4% annual rate or carbon emissions reductions) is shown (solid line), along with decarbonization pathways that achieve carbon neutrality by 2040 (requiring 5% annual reductions) and 2030 (requiring 7.7% annual reductions) Source: www.theclimatecenter.org

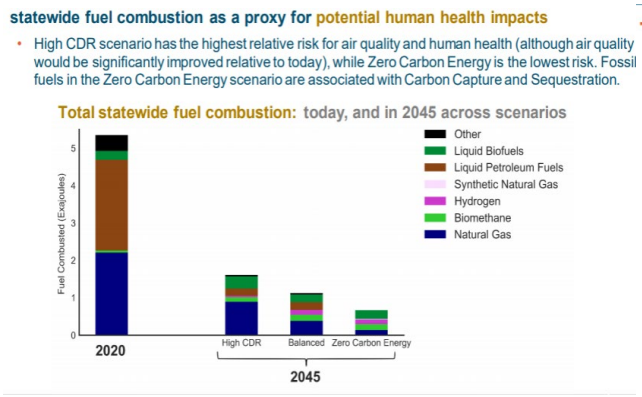
Achieving this level of reduction would require "a wartime-like mobilization of resources and comprehensive policy support."[15] But as the study authors point out, doing so would deliver enormous pollution reduction and public health benefits, while potentially unlocking positive tipping points in declining energy costs and synergies that offer additional routes to deep decarbonization. While the hurdles to implementation may prove challenging, it is preferable to come up just short of crucial targets that would actually meet the scale of the crisis and maximizes health benefits, than to successfully meet targets that are wholly deficient and accept unnecessary levels of pollution.

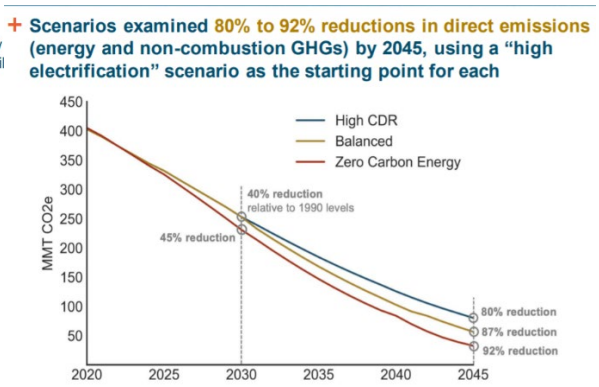
2. California Must Pursue Carbon Neutrality by Eliminating All Fossil Fuel Production and Combustion

The Scoping Plan is required—per Assembly Bill ("AB") 197—to prioritize rules and regulations that result in direct emission reductions at large stationary sources and mobile sources. Thus, CARB's path to carbon neutrality must maximize reductions in air pollution and health harms, especially for low-income and disadvantaged communities. **Eliminating fossil fuel combustion (i.e. the "Zero Carbon Scenario" under E3's "Achieving Carbon Neutrality" PATHWAYS analysis) should be the default strategy for the Scoping Plan.** As an initial matter, this scenario has the largest reductions in air pollution, and accordingly achieves the greatest progress in redressing the environmental injustice of continued air pollution, which disproportionately harms BIPOC and low-income communities in the State.[16] Moreover, as shown in the slides below, this strategy achieves the deepest reductions in greenhouse gas emissions, while limiting reliance on yet-to-be commercialized Carbon Dioxide Removal (CDR) technologies.

Figure 2: "Zero-Carbon Energy" Scenario Has Lowest Statewide Combustion and Lowest Direct Emissions Reductions

[15] Id. at 11.
[16] E3, Achieving Carbon Neutrality in California & 2022 Scoping Plan, (June 8, 2021) at 13 https://ww2.arb.ca.gov/sites/default/files/2021-06/e3-uci-rhodium_sp_kickoff_june2021.pdf.





Importantly, even if these technologies do achieve commercialization in time to be useful, they would not negate the need to eliminate fossil fuel combustion. As Rajinder Sahota pointed out in the Scoping Plan workshop, to the extent that we can draw down carbon and achieve negative emissions, we should.[17] If we are able to remove carbon from the atmosphere through natural and working lands or other means, this must be done in addition to—and never in place of—the elimination of fossil fuel combustion. New legislation has been proposed to ensure that the Scoping Plan identifies measures to achieve carbon neutrality by 2045 or sooner, and that a minimum of 90 percent of greenhouse gas reductions come from direct reductions—**i.e. that the use of negative emissions do not replace aggressive, direct reductions.**[18] But CARB need not wait for new legislation to ensure the Scoping Plan honors this basic principle of climate and environmental justice.

For similar reasons, the Scoping Plan should provide an honest assessment of the very limited supply of sustainable, carbon-free liquid and gaseous fuels, and avoid using them in any sectors where it is feasible to implement solutions that are zero-emission for both air pollution and greenhouse gases. Fuels such as green hydrogen, biomethane, and low-carbon liquid fuels require rigorous tracking of environmental integrity, as there is an industry incentive to market these fuels as "renewable" or "carbon negative" even when they come from highly-polluting sources. As the E3 study points out, whatever genuinely sustainable subset of these fuels is available must be prioritized for sectors where eliminating combustion through electrification is not possible.

3. California Must Develop an Expedited Plan and Timeline to Cease Fossil Fuel Production.

California's continued production of oil and gas is both its greatest climate hypocrisy and one of its clearest expressions of environmental racism. Today, despite shrinking oil reserves and the growth of affordable clean energy solutions and zero-emissions vehicles, drilling and other production activity is still pervasive across the State. Because years of purposeful inaction has burdened frontline community members with enormous and ongoing harms, California must take urgent and long overdue steps to end oil and gas development and bring us into full alignment with the climate goals laid out by the IPCC. Anything less will fail to meaningfully address the climate crisis, continue to sacrifice the health, safety, and economic wellbeing of frontline communities, and prevent California from moving beyond a declining oil industry and toward a cleaner, healthier, and more sustainable economy.

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[17] Rajinder Sahota, 2022 Scoping Plan Kick-Off Workshop (June 8, 2021) at slide 18 https://ww2.arb.ca.gov/sites/default/files/2021-06/carb_overview_sp_kickoff_june2021.pdf.
[18] Assembly Members Muratsuchi and Garcia, AB 1395 – The California Climate Crisis Act (June 28, 2021) https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=202120220AB1395.

Indeed, unambiguous climate science tells us that new fossil fuel production must end starting in 2021,[19] and that existing fossil fuel production carries us well past the carbon budget that remains to keep warming below 1.5 degrees Celsius. In California, because extracting and refining the State's heavy and waterlogged oil often requires incredibly energy-intensive well stimulation and enhanced oil recovery techniques, the crude oil is already some of the most climate-damaging in the world, with greenhouse gas emissions that rival Canada's dirtiest tar sands crude.[20] In fact, the carbon intensity of our crude supply continues to increase.[21] Continuing to rely on this industry thus undermines California's commitment to being a climate leader and ignores the major role fossil fuel production plays in bringing us closer to devastating, irreversible climate change.[22]

Contrary to oil and gas industry claims, limiting California's production will not lead to equivalent increases in production elsewhere. Economists have debunked the "perfect substitution" theory that reducing oil production in California will result in an equal amount produced elsewhere, potentially causing even more greenhouse gas emissions. In reality, reducing oil production in the State will result in *global* reduction in oil production. For every barrel of oil kept in the ground in California, roughly one-half barrel of oil will remain in the ground globally.[23] Moreover, the benefits are even greater when considering a corresponding decrease in fossil fuel demand in California.[24]

Oil and gas activity also harms the health of far too many residents, especially in the low-income communities of color where it is frequently located. The disproportionate burden of the fossil fuel industry on people of color becomes even more apparent when both demographics and existing environmental vulnerability is taken into account. Of the approximately 5.4 million Californians that live within one mile of a well, more than a third of these residents—almost 1.8 million individuals—also live within an area that has been identified by the California Environmental Protection Agency (CalEPA) as among the most burdened by environmental pollution.[25] Significantly, of the residents that both live within one mile of oil and gas development and in communities identified as most vulnerable by CalEPA, nearly 92 percent are people of color.[26] The industry has turned these communities into "sacrifice zones," where people are more likely to be exposed to toxic contaminants in air and water and experience increased risk of associated health effects like asthma, premature births, high-risk pregnancies, and

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[19] Chloe Farand, IEA: End Fossil Fuel Expansion Now for Net Zero Energy Emissions by 2050 (May 18, 2021) https://www.climatechangenews.com/2021/05/18/iea-end-fossil-fuel-expansion-now-net-zero-energy-emissions-2050/.

[20] John Fleming, Ph.D., Killer Crude: How California Produces Some of the Dirtiest, Most Dangerous Oil in the World (June 2021) at p. 3, https://www.biologicaldiversity.org/programs/climate_law_institute/pdfs/June-2021-Killer-Crude-Rpt.pdf.

[21] *Id.*

[22] Oil Change International, *The Sky's Limit California: Why the Paris Climate Goals Demand that California Lead in a Managed Decline of Oil Extraction* (May 2018), http://priceofoil.org/content/uploads/2018/05/Skys_Limit_California_Oil_Production_R2.pdf.

[23] Erickson, P. & Lazarus, M., *How Limiting Oil Production Could Help California Meet Its Climate Goals, Stockholm Environment Institute* (2018), https://www.sei.org/wp-content/uploads/2018/03/sei-2018-db-california-oil2.pdf.

[24] *Id.* at p. 8.

[25] Natural Resources Defense Council (NRDC) (2014). Drilling in California: Who's at risk? at p. 9, https://www.nrdc.org/sites/default/files/california-fracking-risks-report.pdf.

[26] *Id.*

cancer.[27] Recently, for example, two important studies analyzing the health effects of oil and gas drilling in California identified a significant association between nearby production and adverse birth outcomes.[28]

Environmental justice communities have long called on California to phase out the toxic practice of extracting and refining fossil fuels in predominantly Black, Latinx, Asian, Indigenous, and low-income communities of color, beginning with the common-sense step of banning oil and gas operations near homes, schools, hospitals, childcare facilities, and other sensitive locations.[29] That the State not only has failed to address these harms, but continues to actively approve thousands of new drilling permits[30] is incomprehensible.

California's strengths as a wealthy, diversified economy justify an accelerated production phase-out—compared with many lower income, oil-dependent nations, winding down production in California is manageable if not long overdue. As Professor Kyle Meng highlighted in the Scoping Plan workshops, California's fossil fuel supply sector—while responsible for 11% of greenhouse gases and a quarter of all criteria and toxic air pollutants—makes up 0.9% of the State's GDP and 0.2% of the State's workforce.[31] The industry has also experienced a prolonged economic downturn for years, along with dwindling investor confidence, shrinking revenues, price volatility, and ever-increasing debts. The long-term economic repercussions of this downward trend will only increase the more we invest in this industry, and highlight the need for a faster shift away from fossil fuel development.[32] In fact, both national and California studies have demonstrated that investing in a just transition to a clean energy economy will benefit workers and the economy.[33]

California must therefore shift its economy and people beyond oil and gas production as expeditiously as possible. CARB should also consider including near-term measures in the Scoping Plan to immediately

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[27] *See, e.g.*, Shonkoff, S.B.C., Domen, J.K., Hill, L.A.L. (2019). *Human health and oil and gas development: An assessment of chemical usage in oil and gas activities in the Los Angeles Basin and the City of Los Angeles* at 6, 39-40, https://www.psehealthyenergy.org/wpcontent/uploads/2019/08/Chemical-Assessment.pdf.

[28] Gonzalez, D.J.X., Sherris, A.R., Yang, W., Stevenson, D.K., Padula, A.M., Baiocchi, M., Burkee, M., Cullen, M.R., Shaw, G.M. (2020). Oil and gas production and spontaneous preterm birth in the San Joaquin Valley, CA. *Environmental Epidemiology*, 4(4). https://journals.lww.com/environepidem/Fulltext/2020/08000/Oil_and_gas_production_and_spontaneous_preterm.1.aspx?context=LatestArticles; Tran, K.V. et al. (2020). Residential Proximity to Oil and Gas Development and Birth Outcomes in California: A Retrospective Cohort Study of 2006–2015 Births. *Environmental Health Perspectives*. Vol. 128, No. 6. https://doi.org/10.1289/EHP5842.

[29] *See*, https://www.vision-ca.org/

[30] Fleming (2021).

[31] Kyle Meng, Enhancing Equity While Eliminating Emissions in California's Supply of Transportation Fuels (June 17, 2021) at slide 3 https://ww2.arb.ca.gov/sites/default/files/2021-06/ucsb_sp_kickoff_june2021_0.pdf.

[32] Last Chance Alliance, *Phasing Out Fossil Fuels* (June 2019 at pp. 20-21, https://lastchancealliance.org/wp-content/uploads/2019/07/California-Oil-and-Gas-Policy-Brief-Last-Chance-Alliance.pdf.

[33] *See* Heidi Garrett-Peltier, *Green versus brown: Comparing the employment impacts of energy efficiency, renewable energy, and fossil fuels using an input output model*, 61 Economic Modeling (2017); Frank Ackerman et al., Synapse Energy Economics, Inc., *Can Clean Energy Replace California Oil Production? Petroleum cutbacks and the California economy* (2018), http://www.synapseenergy.com/sites/default/files/Can-Clean-Energy-Replace-California-Oil-18-012.pdf.

stop new permitting of oil and gas activity in the State and implement a minimum 2,500-foot statewide health and safety setback to provide much needed relief to frontline communities now.

4. **Rapidly overhauling the transportation system to zero-emissions will deliver enormous benefit**

Transportation is the largest emitting sector in the state, responsible for half of all greenhouse gases when oil refining and production are included, and three-quarters of all NOx emissions.[34] Achieving the vision of a zero-emission transportation system nationally would deliver enormous public health and climate benefits, avoiding 150,000 premature deaths, $1.3 trillion in avoided health costs, and $2.7 trillion in direct consumer savings through 2050, all while creating over 2 million net new jobs in 2035.[35]

a. CARB's ZEV regulations must be strengthened and accelerated to match air quality and climate targets

Stringent mandates are the best guarantee of meeting our climate targets. They have a demonstrated track record of effectively bringing new, clean energy technologies to market, and send the clearest transformational signal to manufacturers, fleets, local governments, utilities, and the broader public on the direction and pace of transformation needed for the transportation sector. Given the current overlay of rulemakings, CARB has an important opportunity to strengthen manufacturer mandates to secure sales that actually match the schedules outlined in CARB's Mobile Source Strategy.

CARB's Scoping Plan should call for a revision of ZE road transportation regulations to achieve the following sales schedules:

Through the Advanced Clean Cars 2 Regulation, Mandate the Following ZE Sales Shares for Light-Duty Vehicles:

2026	2027	2028	2029	2030	2031	2032
40%	50%	60%	70%	80%	90%	100%

Through the Advanced Clean Fleets Rule and Future Advanced Clean Trucks Rule, Mandate the Following ZE Sales Shares for Medium- and Heavy-Duty Vehicles:

2026	2027	2028	2029	2030	2031	2032	2033	2034	2035
13%	20%	30%	40%	50%	60%	70%	80%	90%	100%

These figures are drawn from multiple scenario analyses, including those presented on during the Scoping Plan workshop on transportation. Energy Innovation's *Energy Policy Simulator* shows that meeting California's 2030 targets requires ZEVs to reach 80 percent of new sales by 2030.[36] E3's *Achieving Carbon Neutrality* calls for 100% ZEV sales in 2030 in the zero-carbon scenario and even the higher-

[34] https://ww2.arb.ca.gov/sites/default/files/2021-06/carb-overview_sp_kickoff-transportation_june2021.pdf.
[35] Sara Baldwin et al, Accelerating Clean, Electrified Transportation by 2035: Policy Priorities (Apr. 2021) https://www.2035report.com/transportation/downloads/.
[36] Chris Busch and Robbie Orvis, Insights from the California Energy Policy Simulator (Jan. 2020) at 35 https://energyinnovation.org/wp-content/uploads/2020/01/Insights-from-the-California-Energy-Policy-Simulator.pdf.

combustion scenario require a phase-out by 2035.[37] Similarly, the medium- and heavy-duty sales mandates are drawn from CARB's own Mobile Source Strategy (reflecting the sales schedule assumed for the Class 4-8 vocational trucks) and closely mirror the sales schedule called for in the UC Berkeley report on accelerating transportation electrification.[38]

b. Public investment should focus on freight, public transit, and advanced charging infrastructure in low-income communities.

Stringent regulations can align the economic objectives of EVSE suppliers and automanufacturer's with the State's urgent climate goals. While directives in the form of strong regulations are likely to spur a substantial expansion of ZEVs and ZEV infrastructure, public investment will be crucial for steering the transition in a rapid and equitable manner.

Near term priorities should include:

- Maximize large-scale infrastructure installation in obvious deployment categories, such as overnight depot charging at freight facilities and public fast charging along highly utilized freight and transit corridors to maximize diesel pollution reduction;
- Charging infrastructure and distributed energy generation at Ports to support zero-emission drayage, cargo-handling equipment, commercial harbor craft, and other diesel-powered freight equipment;
- The buildout of public and fast charging in low-income and disadvantaged communities, especially near multi-family dwellings and in new construction;
- Infrastructure to enable ZE mobility options beyond vehicle ownership, such as public transit and car-share, especially in low-income communities.

c. The State cannot afford splitting investments into natural gas or "renewable fueled" vehicles

In spite of the clear direction from the CARB Board Members, from the Governor's Executive Order, from the State Legislature, and most importantly, from dozens of environmental justice groups across the State, the gas industry continues to aggressively push for continued support for natural gas vehicles.[39] Earthjustice and our partners have provided CARB with a detailed explanation about the climate, air pollution, and economic failures of continuing to invest in combustion technology, and the importance of staying the course with an all-out mobilization for widespread electrification to eliminate both greenhouse gas and air pollution emissions.[40] The Scoping Plan should maintain the proper focus of State policy on this transition, and avoid distraction from the gas industry pushing for the use of "renewable" gases in the road-transportation sector where zero-emission alternatives are preferable.

5. Electricity Sector

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[37] E3, Achieving Carbon Neutrality, (Aug 2020) at 24 https://ww2.arb.ca.gov/sites/default/files/2020-08/e3_cn_draft_report_aug2020.pdf.

[38] Sara Baldwin et al, Accelerating Clean, Electrified Transportation by 2035: Policy Priorities (Apr. 2021) at iv https://www.2035report.com/transportation/downloads/.

[39] Taylor Thomas et al, Letter to South Coast Air Quality Management District, "Re: Investments for NOx medium- and heavy-duty trucks" (June 28, 2021) https://earthjustice.org/sites/default/files/files/ej_letter_to_scaqmd.pdf.

[40] Judy Borcz et al, Response to South Coast Air Quality Management District, (June 29, 2021) https://earthjustice.org/sites/default/files/files/scaqmd_acf_technical_response_-_6-29-21.pdf.

Rapid decarbonization of the electric grid is needed for California to achieve its economy-wide decarbonization goals. It is also needed to ensure that vulnerable communities are no longer forced to bear the brunt of the State's polluting resources. To achieve these dual goals, California must invest now in large-scale deployment of zero-emitting grid resources and retire gas plants, with an early priority for those in disadvantaged communities. CARB's role in this is critical, and it should update the Scoping Plan to meet these goals.

First, CARB must set GHG targets for the electric sector along with guidance that will help ensure compliance on the part of the California Public Utilities Commission ("CPUC").[41] Unfortunately, in 2019, the CPUC elected a planning target in the Integrated Resources Planning ("IRP") proceeding that *exceeds* the Scoping Plan's range for the electric sector by several MMTs. As the climate crises worsens, California cannot afford such grievous errors.

CARB can help prevent these errors by improving the electric sector target in the following ways:

- Specify both a statewide MMT range for the electric sector as well as the corresponding range for California's Independent System Operator territory (approximately 80 percent of the statewide range) as the latter figure is directly relevant to the CPUC's IRP planning;
- State that any CPUC modeling of its Reference System Plan GHG emissions in the IRP proceeding must demonstrate that the emissions fall squarely within the Scoping Plan range and account for any modeling errors that might underestimate actual GHG emissions;
- Clarify that the MMT range for the electric sector is derivative of the projected economy-wide reductions from the Cap-and-Trade Program, such that the electric sector must assume a higher percentage of the emission reductions if other sectors within the Cap-and-Trade (e.g. oil and gas) increase GHG emissions over what CARB had projected.

Second, the Scoping Plan should recommend a planning process that will enable the swift retirement of fossil fuel grid resources, especially those that disproportionately burden disadvantaged communities. Interagency coordination, with a focus on siting zero-emissions resources in locally constrained areas, is needed to achieve the necessary retirements.

Third, the Scoping Plan should make clear that certain forms of "bioenergy" are not solutions to the climate crisis and pose serious health risks, especially to already burdened communities. Biomass plants, for example, are highly polluting as even the cleanest biomass plant can emit over 150% the nitrogen oxides, over 600% the volatile organic compounds, over 190% the particulate matter, and over 125% the carbon monoxide of a coal plant per megawatt-hour.[42] As a result, they should be taken off the table and not considered "clean" or zero-emitting. The same is true for biomethane, which is falsely touted as a "clean" alternative. In fact, biomethane combustion is just as polluting, if not more polluting, than fossil gas. A CPUC analysis indicates, for example, that biogas facilities emit higher levels of SO2.[43] Also, much of the biomethane currently in the market lacks environmental integrity. There is no way to ensure that biomethane use at gas plants actually results in GHG reductions compared to fossil gas. Indeed, there is a significant risk that it can be

[41] See Cal. Public Util. Code § 454.52(a)(1) (requiring that any integrated resource plan approved by the CPUC "ensure" compliance with SB 32's requirements, as reflected by CARB's Scoping Plan.).
[42] Mary S. Booth, *Trees, Trash, and Toxics: How Biomass Energy Has Become the New Coal*, Partnership for Policy Integrity, at 5 (Apr. 2, 2014).
[43] Energy Division, Updated Criteria Pollutant Analysis (Feb. 20, 2020), ftp://ftp.cpuc.ca.gov/energy/modeling/CriteriaPollutantAnalysisUpdate_20200221.pdf, Slide 6-7.

used to "greenwash" fossil gas and distract decision-makers from taking measures necessary to actually reduce GHGs such as the retirement of gas plants and building electrification. Further, certain sources of biomethane such as dairy confined animal feeding operations contaminate air and water and disproportionately burden disadvantaged communities with harmful pollution. The Scoping Plan should indicate that the electric sector should avoid these polluting forms of energy.

Finally, the Scoping Plan should make clear that California should not rely on fossil-fueled back up generators ("BUGs")—such as diesel BUGs—as a solution to extreme weather events that threaten grid reliability. These polluting resources are disproportionately located in disadvantaged communities and pose serious risks to public health and the climate. As CARB has estimated, diesel BUGs during public service power shutoffs in October 2019 alone produced diesel PM equivalent to almost 29,000 heavy duty diesel trucks driving on California roadways for one month.[44] Unfortunately, the CPUC continues to allow these prohibited resources, authorizing diesel BUG use in its Emergency Load Reduction Program for 2021 and 2022, despite that fact that CARB's Airborne Toxic Control Measures and many air permits prohibit diesel BUG use for such purposes. The Scoping Plan should directly take on this significant threat to air quality, which extreme weather will only exacerbate.

6. Eliminating fossil fuels in homes and buildings can and must become a near-term priority.

Like transportation, eliminating fossil fuel reliance in buildings is a significant opportunity to create good-paying jobs and redress the health harms of indoor combustion while tackling the climate crisis. Thanks to the declining costs of wind and solar energy, and the superior efficiency of modern all-electric appliances like heat pump water heaters and induction stoves, E3 points to buildings as one of our lowest cost mitigation options.[45]

The Scoping Plan must create a roadmap to decarbonizing California's buildings in a rapid and equitable manner. The simplest place to start, of course, is to ensure that new buildings are not built to depend on burning gas in the first instance. Fortunately, all-electric new construction is already cheaper than mixed-use buildings, and also results in substantial lifecycle savings compared to mixed-use buildings in most home types.[46]

Retrofitting existing buildings will be more challenging, but is also an important opportunity to offer California communities better quality of life, health, and new jobs. Retrofits can maximize high-road job opportunities by beginning initially with large, municipal, university, school and hospital (MUSH) buildings, which tend to fetch better labor conditions and which have less concern about longer rates of

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[44] CARB, *Emission Impact: Additional Generator Usage Associated with Power Outage [Draft] January 30, 2020,* http://ww2.arb.ca.gov/sites/default/files/2020-01/Emissions_Inventory_Generator_Demand%20Usage_During_Power_Outage_01_30_20.pdf (last visited Jan. 10, 2021).

[45] Cal. Energy Comm'n, *Draft Staff Report: California Building Decarbonization Assessment* 11, 51, 211, 234 (May 2021), https://www.energy.ca.gov/data-reports/reports/building-decarbonization-assessment.

[46] E3, Residential Building Electrification in California 79 (Apr. 2019), https://www.ethree.com/wp-content/uploads/2019/04/E3_Residential_Building_Electrification_in_California_April_2019.pdf.

return for high up-front investments.[47] CARB should also work with other agencies and with environmental justice communities to identify priority communities that could be bundled at the neighborhood level to help streamline retrofitting and potentially help retire entire distribution lines of the gas system, offering greater ratepayer savings and avoiding methane leakage.

Conclusion

The energy transformation in California has never been more urgent—accelerating progress is crucial for California to build momentum for climate action globally, and prove to the world that tackling the climate crisis is an opportunity to secure a healthier, more equitable, and more vibrant society. We look forward to working with CARB to create a Scoping Plan that lays out a credible path to that future.

Sincerely,

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[47] Betony Jones et al., California Building Decarbonization Workforce Needs and Recommendations ES-iv to ES-v (Nov. 2019), https://innovation.luskin.ucla.edu/wp-content/uploads/2019/11/California_Building_Decarbonization.pdf.