June 24th, 2022

Govenor Gavin Newsom
1021 O Street, Suite 9000
Sacramento, CA 95814

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

RE: Joint Community Choice Aggregators comments on Draft 2022 Scoping Plan

Dear Honorable Governor Gavin Newsom and the California Air Resources Board,

The undersigned community choice aggregators (collectively "Joint CCAs") offer the following comments on the draft 2022 scoping plan ("Scoping Plan") on three key themes:

1) The Greenhouse Gas emissions targets for the energy sector should be revised dramatically downwards to reflect actual load serving entity practices and load serving entity targets embodied in statute and regulatory proceedings, especially Senate Bill (SB) 100 and California Public Utilities Commission Integrated Resources Planning proceedings. Proceeding with the energy sector targets as proposed in the present draft Scoping Plan would risk increasing emissions in one of the sectors that specifically contributes to the most cost effective and rapid overall statewide greenhouse gas emissions reductions.
2) The target dates for light-duty and medium and heavy-duty transportation electrification are currently consistent with Executive Order N-79-20 but should be viewed as

minimums. Going forward, CARB should continue to consider all available pathways to exceed those targets, such as advancements in technology and changes in personal and commercial vehicle markets, to ensure that California will achieve its transportation electrification goals.

3) The targets for building decarbonization must be significantly advanced to reflect current practice, accommodate the realities of appliance longevity and ensure Californians health, safety and comfort maximally improve.

Given unrealistic assumptions and approaches, the California Air Resources Board ("CARB") should revisit their analysis and develop new alternatives that (i) envision higher renewable buildout, (ii) rely less on uncertain technologies like direct air capture, and (iii) consider the legal constraints that apply to retail sales and gas procurement.

The signed Community Choice Aggregators are public agencies created to serve over 200 communities, cities and counties in California, providing energy to 11 million Californians across the state. Peninsula Clean Energy currently serves San Mateo County and the city of Los Baños in Merced County with a total of 315,000 customers. Marin Clean Energy provides electricity service to more than one million residents and businesses in 37 member communities across Contra Costa, Marin, Napa, and Solano counties.

CCAs are central to the future of California's electricity system. Together CCAs serve 25%[1] of the state's total electricity consumption and load and will likely make up a significant portion of energy procurement going forward. Many CCAs have their own internal binding targets for their procurement that go beyond the statutory requirements to decarbonize our energy supplies.

I. Electricity Sector Greenhouse Gas Emissions targets are unreasonably high and do not reflect legal or factual constraints on the energy sector.

a. The Scoping Plan targets do not comport with IPCC recommendations.

The starting point for greenhouse gas targets in the Scoping Plan must be aligned with the current science. According to the Intergovernmental Panel on Climate Change, global emissions found that to limit warming to 1.5°C, global $CO_{2\text{-equivalent}}$ emissions should decline by

[1] California Energy Commission, Docket 21-IEPR-03 – Electricity and Gas Demand Forecast, TN# 241382, Form 1.1c. Total California load in 2022 will be 237 TWh (excluding pumping load) and the CCAs serve 57 TWh

approximately 45% from 2010 levels by 2030 and reach net zero around 2050.[2] If California is to be a leader, GHG emissions within the state must decline faster than this trajectory. Since California is highly vulnerable to climate change impacts, California must also be prepared to compensate for other jurisdictions that are not leaders in climate action.[3] The electricity sector, along with the transportation sector, are among the most cost-effective sectors to decarbonize. As such, California should focus efforts on capturing the potential gains in emissions reductions rather than relying on unproven direct air capture technologies.

b. The Scoping Plan is not consistent with SB100 requirements and CCA requirements.

The Greenhouse Gas Target envisioned in the Scoping Plan is not consistent with the requirements of SB100. The statute requires the state's Load Serving Entities (LSEs) to fully serve customer energy needs with clean energy by 2045. As modeled by the California Energy Commission, meeting this standard results in sector-wide emissions of less than 24 MMT in the least stringent core scenario, sector-wide emissions of 12 MMT under stricter interpretations of SB100 requirements, and sector-wide emissions of 5 MMT under a no combustion scenario.[4] In complying with these requirements, the state's LSEs must deliver emissions below the 30 MMT envisioned in the Scoping Plan – implying that the Scoping Plan's 30 MMT target should be reevaluated.

The Scoping Plan's 30 MMT target is also inconsistent with the targets and requirements of CCAs. Many CCAs also have targets that will drive faster and deeper reductions than those envisioned in the SB100 study, creating real-world electricity sector emissions lower than envisioned in the Scoping Plan. For example, Peninsula Clean Energy currently delivers 100% carbon free energy to its customers and will be delivering 100% renewable energy to its customers on an hourly basis by 2025.

As CCA's currently serve 25% of California's total electricity consumption, CCAs will likely account for a significant portion of procurement over the next decade. Thus, the procurement policies of CCAs will drive the state's decarbonization trajectory at least for the near term. These additional, stricter requirements by CCAs will drive statewide emissions lower

[2] See Intergovernmental Panel on Climate Change (2018) Global Warming of 1.5C Report, Chapter 2, at 95, https://www.ipcc.ch/site/assets/uploads/sites/2/2019/05/SR15_Chapter2_Low_Res.pdf.
[3] See, CPUC Decision D.19-05-019.
[4] California Energy Commission, Docket 19-SB-100, TN# 237167, Figure 34 et seq.

than the Scoping Plan modeling, and the failure to account for these policies results in a Scoping Plan target that is too high.

The use of firm targets (e.g., "30 MMT") instead of carbon intensity (e.g., "MTCO2e/MWh") facilitates for a simple accounting of emissions across multiple sectors. However, targets in the Scoping Plan must remain dynamic to avoid inadvertently slowing California's progress or unnecessarily increasing costs, for example by punishing electric power providers for accelerating the adoption of electric vehicles. Transportation electrification and the corresponding reduction in vehicle emissions relies on a cleaner fuel – electricity – and produces an increase in the overall emissions associated with LSEs. It may be necessary for emissions targets in the electricity sector to be dynamically revised upwards with faster adoption of electric vehicles to allow for the fastest and least-cost means to produce economy wide GHG reductions. Scoping Plans should recognize this tradeoff and continue to evaluate which overall portfolio of solutions best meets California's needs.

c. The Scoping Plan is an outlier among models of 2045 electricity sector deployment.

Numerous other studies have shown that lower GHG emissions are cost optimal, suggesting that the study underlying the Scoping Plan is an outlier. As noted above, the SB100 study results in lower emissions. Similarly, the California Energy Commission's Deep Decarbonization study suggested that the optimal electric sector emissions would be 8 MMT by 2050 as part of a strategy that could save Californians $400 billion a year in present value.[5] Additionally, the 2035 Report from the Goldman School found that generating 90% of energy from renewable sources is feasible by 2035, and would cost less than a grid based on current energy policies with ancillary health and economic benefits reaching into the trillions of dollars nationwide.[6] This finding is recognized by the Scoping Plan,[7] but the Plan is not consistent with these findings. Similarly, a recent study of the impact of the high social cost of carbon conducted by the California Public Utilities Commission concluded that for realistically high

[5]Amber Mahone et al., *Deep Decarbonization in a High Renewables Future: Updated Results from the California PATHWAYS Model.* California Energy Commission. Publication Number: CEC-500-2018-012, at 40, available at https://www.ethree.com/wp-content/uploads/2018/06/Deep_Decarbonization_in_a_High_Renewables_Future_CEC-500-2018-012-1.pdf (June 2018)

[6] Goldman School of Public Policy, 2035 Report, available at https://www.2035report.com/

[7] Scoping Plan, Executive Summary, at viii.

values of the social cost of carbon, emissions should fall to 23 MMT.[8] The significant inconsistencies with prior modeling by other agencies strongly suggests that the Air Resources Board should reexamine the assumptions driving the results and revise assumptions using more realistic inputs for new modeling efforts. CARB should revisit their analysis on the 30 MMT to drive out all emissions from the electric sector that can be done cost effectively. The research indicates that a lower target may be possible and CARB should attempt to align their target with the available studies to avoid overcommitting to fossil resources.

d. The Scoping Plan envisions an unrealistic trajectory for California's fossil gas fleet.

The Scoping Plan also includes an unrealistic trajectory for the state's gas fleet. While the CPUC's IRP planning and the SB 100 study identify significant retirements of the gas fleet by 2045,[9] the Scoping Plan envisions not only retaining the entire existing gas fleet through 2045, but also building 10 GW of new gas capacity.[10] This finding is inconsistent with the political and procurement realities. Siting fossil gas plants has proven extremely challenging in California, posing significant barriers to deployment of any fossil gas generation at scale. In addition, fossil gas resources cannot be used to serve customer load under the requirements of SB100 after 2045. Since few if any LSEs would procure fossil gas resources at all, plans to add 10 GW of new fossil gas to the state's fleet are unrealistic, would likely result in unnecessary cost burdens for Californians, and should be revisited to avoid overcommitting to fossil resources.

e. The Scoping Plan is overly reliant on unproven technologies with unknown costs

The Joint CCAs are extremely concerned by the extensive reliance of the Scoping Plan on Direct Air Capture ("Carbon Dioxide Removal" or "CDR"). The proposed scenario envisions ramping up a nascent technology with significant potential costs from 0.2MMT capacity *globally* to deliver over 150 MMT tons of direct carbon capture annually in California alone within 12

[8] California Public Utilities Commission, Societal Cost Test Impact Evaluation, January 2022, Proceeding R.20-05-003. See also discussion of the appropriateness of the high societal cost values in light of California's particular vulnerability to climate change in Decision D.19-05-019.
[9] See, e.g., SB 100 Study, n.3, Figure 31.
[10] Scoping Plan, Figure 4-5, see also, CARB Draft Scoping Plan: AB32 Source Emissions Initial Modeling Results, Energy + Environmental Economics, Presentation March 15, 2022, slide 26.

years.[11] This represents building enough direct air capture capacity to capture nearly four times current GHG emissions from the electricity sector and increasing global CDR capacity up to over 80-fold.[12] While the scale of renewable generation and storage deployment in the next 22 years is daunting, these technologies have years or decades of proven performance of deployment at utility scale. Direct Air Capture has no such proven success of reliable cost estimates to support the Proposed Scenario. Consequently, the modeling underlyling this Scoping Plan relies on uncertain assumptions that are unlikely to prove true. The uncertainty in cost estimates are necessarily extremely wide. Errors in these estimates may explain the severe departures of the Scoping Plan modeling from the general range of reasonable estimates delivered by other modeling efforts. If CDR cost estimates prove to be too optimistic, energy sector planning may be so far off from the needed trajectories that timely course correction will be either infeasible or prohibitively expensive. The potential alternative of greatly exacerbated climate impacts is unacceptable. Given the speculative and unproven nature of this technology,the Joint CCAs recommend the Scoping Plan be revised to consider more realistic assumptions around the growth of CDR.

II. CARB should continue to strive to exceed Executive Order directives to achieve 100% transportation electrification.

The Scoping Plan adopts Electric Vehicle ("EV") adoption targets that are consistent with executive orders. In addition to the role of CCAs in procuring electricity for our constituents, CCAs also play an active role in the deployment of electric vehicle infrastructure in our communities. Based on our on-the-ground experience, the transition to 100% electric vehicles is feasible and could be done by the Executive Order N-79-20[13] targets of 2035 for light duty vehicles and 2045 for medium and light duty vehicles. However, the Joint CCA's would encourage CARB to continually explore new pathways in an effort to exceed those targets and provide the best opportunity for California to achieve its transportation electrification goals. With California's grid growing cleaner by the year and more car companies prioritizing new EV models, there is a strong possibility that EV penetration significantly surpass the targets adopted

[11] Scoping Plan, at 75-76.
[12] Scoping Plan, Figure 2-5.
[13] Executive Order N-79-20, https://ww2.arb.ca.gov/resources/fact-sheets/governor-newsoms-zero-emission-2035-executive-order-n-79-20/printable/print

in the Scoping Plan. CCAs will help accelerate this growth with new and growing programs supporting EV deployment.

The Joint CCA's note that one way to help facilitate the adoption of EVs and reduce the carbon intensity of transportation fuel used in California is to provide equitable access to Low Carbon Fuel Standard (LCFS) program credits for CCAs. As described in a recent set of comments to CARB, CCAs have demonstrated a cost-effective and community-based approach to the design of our programs, which provide local impacts and promote community resilience among our customers. CCAs serve a majority of the customers and load in PG&E's service area and are on a trajectory to serve a majority of the load among all IOU service areas. Changes to the LCFS program would better support state goals by enabling CCA's capacity to increase the adoption of light, medium, and heavy-duty zero emission vehicles and necessary refueling infrastructure throughout the state. The Joint CCA's look forward to discussing such changes to the LCFS regulations with CARB after development of the Scoping Plan.

III. Building decarbonization should proceed substantially faster than envisioned in the Scoping Plan.

Similary, the Scoping Plan should reflect the experience and best-in-class performance of CCAs and other local agencies. The Scoping Plan calls for 100% of residential space heating appliance sales to be electric by 2035, implying that other residential appliances will undergo a similar transition.[14] The Scoping Plan also suggests that commercial appliances will undergo a similar transition reaching 80% sales of all-electric appliances by 2035 and 100% by 2045.[15]

However, given the long lifespan of appliances, it is critical that the transition to 100% electric be accelerated to ensure carbon neutrality by 2045, since appliances sold in 2025 can be expected to still be in service in 2045 locking in emissions and corresponding infrastructure until these appliances are replaced. Thus, instead of delaying deployment of new appliances and attempting to make up for these emissions with uncertain and expensive CDR, the Scoping Plan should focus on preventing emissions and potential cost spirals. For the building sector, direct emissions from building appliances is a significant emissions source, and the gas distribution system also has high levels of fugitive emissions of methane.[16] These emissions have a

[14] Scoping Plan, at 171.
[15] Ibid.
[16] Eric D. Lebel, Colin J. Finnegan, Zutao Ouyang, and Robert B. Jackson. *Environmental Science & Technology* **2022** *56* (4), 2529-2539. DOI: 10.1021/acs.est.1c04707

disprortionate impact on already overburdened environmental and social justice communities.[17] Thus, there are significant gains to be had by fully phasing out gas appliances that cannot be realized by a partial phase out that leaves the gas distribution system largely in place to serve a small number of users. The Bay Area Air Quality Management District is considering banning gas residential water heaters by 2027, residential and commercial furnaces by 2029, and commercial water heaters and boilers by 2031. The South Coast Air Quality Management District is considering banning residential and commercial gas appliancers with the goal of reducing NOx emissions by 2037. The Joint CCAs also note that these regional agencies' jurisdictions, which make up significant portions of the state, are already considering regulations that would set California on a path to exceed these targets by sending strong market signals to manufacturers and installers.

Therefore, for the building sector, the Joint CCAs would recommend a target of 100% of all new residential appliance sales be electric by 2027 and 100% of all new commercial appliance sales be electric by 2030, which must be paired with a focus on financing and other support for residential retrofits of existing homes and apartments. The Joint CCAs encourage CARB to focus on prioritizing an equitable transition for vulnerable communities, such as tenants and low- and middle-income households and those that face disproportionately higher pollution burdens, to ensure that those who are least able to adopt new building decarbonzation technologies without assistance are not left behind on the gas distribution system. And while it is important to ensure there is a robust assistance network to help these communities decarbonize their homes, the Joint CCAs note there should also be explicit provisions to ensure that those who face barriers to electrification are not further burdened or punished by their inability to adopt these new technologies, and would recommend that these customers be exempt from near term appliance mandates.

IV. Conclusion: The Draft Scoping Plan should be revisited with updated modeling to reduce emissions forecasts.

The Joint CCAs recommend that the Air Resources Board revise the Scoping Plan and develop new modeling with updated assumptions regarding the trajectories of electricity

[17] E3. *Quantifying the Air Quality Impacts of Decarbinization and Distributed Energy Programs in California*. 2021. https://www.ethree.com/wp-content/uploads/2022/01/CPUC-Air-Quality-Report-FINAL.pdf ; UCLA Fielding School of Public Health, *Effects of Residential Gas Appliances on Indoor Air Quality and Public Health in California*, April 2020, https://ucla.app.box.com/s/xyzt8jc1ixnetiv0269qe704wu0ihif7

decarbonization, and without reliance on unproven CDR technologies. The Joint CCAs believe the current methodology underlying the results will not prove out with time. Since the recommendations of the Scoping Plan influence other planning efforts in the energy sector, it is critical that the planning for the electricity sector reflect the most likely outcomes. The Joint CCAs encourage CARB to revisit its analysis with the aim of driving out all emissions from the electric and transportation sector that can be done cost effectively while not overcommitting to fossil resources.

/s/ *Jeremy Waen*
Jeremy Waen
Director of Regulatory Policy
PENINSULA CLEAN ENERGY AUTHORITY
2075 Woodside Road
Redwood City, CA 94061
E-mail: jwaen@peninsulacleanenergy.com
Telephone: (650) 257-8026

/s/ *Sabrinna Soldavini*
Sabrinna Soldavini
Policy Analyst II
MARIN CLEAN ENERGY
1125 Tamalpais Avenue
San Rafael, CA 94901
E-mail: ssoldavini@mcecleanenergy.org
Telephone: (415) 464-6670